No. 38

8915-
8425.

Field Book

of

W. L. Jepson

— 1920 —

If lost finder please return to W. L. Jepson, 2714 Benvenue Ave., Berkeley and receive reward.

Mecca to Palm Springs, 1 May '20.

The desert vegetation such as Atriplex lentiformis, is very rank about Mecca, but there is no time this trip for me to study it. Date groves are springing up on every hand, and this country is destined to become highly fertile agriculturally under the application of water. Many cottonwoods (Populus fremonti) have been planted both as windbreaks and for shade. The trees are often large and fine. They frequently present "many storied" crowns and thus in the piling up of the distinct masses of their foliage they suggest a strong resemblance to the Valley Oak, when seen at a considerable distance. I admired them very much and it was fine to see a great cluster of them across the

Palm Springs of Mt. San Jac-

valley topped by the snowy sum-
mits of Mt. San Jacinto and Mt.
San Gorgonio. These mountains,
rising to sufficient altitude and
assuming grand proportions
make a truly noble sight as
one looks up at their white
crowns from the torrid heat
of this desert valley which
lies almost if not quite at
sea-level. See p. 13, continuation.

Between Indio and Palm Springs
we pass thru as interesting
groves of Prosopis juliflora
as I have ever seen. They give
a charm and uniqueness to this
thread of road which is
most unusual.

√ No. 8915. Gilia = Eriastrum = Hugelia eremica Jepson.
A large field south of Palm Sp.
village is blue with this species
— perhaps 20 acres covered with

into, 1 May 1920, 450 ft.

it. Sandy flat.

√ No. 8916. Eriogonum trichopes

Sandy flat.

√ No. 8917. Cercidium torreyanum (Wats.) = C. floridum Benth. Sarg.
The Palo Verde trees south of the
village were in full bloom.

— Then a very high gale we ran on
and up into and thru San Gorgonio
Pass. The pass is in excellent
bloom but, again, I could not
stay. Down the ocean-ward slope
we hastened, thru Banning and
San Timoteo Canon to Riverside
and Los Angeles where I put
Mr. Dutton on the train the next
morning.

Later in the morning I go
to the south side of the city
for my sister and we proceed
north into San Fernando Valley.
We camp the night at San Fernando

San Fernando Valley

We visit the mission of San Fernando Rey, one mile from the present town of San Fernando. The mission was founded Sept. 8, 1797. There are sufficient remains to show that it was once a most stately establishment and very extensive. The monastery is in an excellent state of preservation plus restoration, considering the times thru which it has passed. It is now used as a sort of museum of church relics. As I understood the guide most of the church furnishings shown were actually used in the early history of the mission. The great beams in the monastery which bind the walls are, said the guide, redwood. They certainly look like redwood but

I had no opportunity to make a critical examination. The guide, P. Power, showed me a copy of Ben C. Truman's Semi-Tropical California - In it, p. , he makes the general statement that the redwood used in the construction of the mission was obtained in one of the mountain canons near the Mission. If it be redwood, the redwood was undoubtedly obtained in the Santa Cruz mountains and sent by sea to San Fernando Rey de España. Engelhardt, California Missions, might also be worth examining.

Over the entrance door:

San Fernando Mission,
cradle of California Liberty,
Visitors Welcome.

San Fernando Valley to Newhall.

No. 8918. Chaenactis
Common or abundant in San Fernando Valley.

No. 8919. Solanum douglasii Dunal.
Mission San Fernando.

No. 8920. Marrubium vulgare L.
Mission San Fernando.

No. 8921. Orthocarpus purpurascens Benth.
San Fernando Valley. 1050 ft.

No. 8922. Baeria
Near Newhall

No. 8923. Lotus strigosus Greene, var. ~~tortellus~~ Ottley.
Near Newhall

No. 8924. Trifolium microcephalum Pursh.
Near Newhall.

No. 8925. Chaenactis
Near Newhall.

No. 8926. Malacothrix (Discarded, insect damaged)
Near Newhall.

No. 8927. Trifolium gracilentum var. inconspicuum Fres.
Near San Fernando.

No. 8927a. Baeria
Near San Fernando.

We pass out of the San Fernando Valley by Fernando Pass. The notch thru which Fremont came on his way to San Fernando is in full view from the present motor road. Over the summit of the pass we run down thru fine clusters of Live Oak (Quercus agrifolia), down thru a canon filled with many fine trees of them, to the village of Newhall where we lunch. We go on to Saugus and then turn westerly down the Santa Clara River. We cross the river and turn northerly into the hills. After a bit we begin to ascend and soon are on the Ridge Road running to Tejon Pass and the San Joaquin Valley. The ridges are mainly and lower slopes exclusively covered with the following no.

No. 8928. Salvia leucophylla Greene.

Mts. above Castaic Creek,* Los Angeles Co. (Ridge Route). c. 3200 ft.

A sage bush 2 to 3 ft. h. and quite dark colored. We collect it above Castaic station.

No. 8928a. Salvia mellifera Jepson. Mountains n. of Castaic Valley.

No. 8929. Arctostaphylos glauca Lindl.

No. 8930. Astragalus antisellii Gray. Gray. This is common all thru these mountains.

No. 8931. Dendromecon rigida Bth. Very common; more of it I think than ever seen elsewhere.

No. 8932. Eriodictyon trichocalyx Hel. Common at the higher alt.

No. 8933. Cryptantha muricata Nels & Mcbr. Lower altitudes.

No. 8934 Lotus salsuginous Greene.

* Castaic is the spelling on map of Los Angeles Co., S. Cal. Auto Club. Spelled "Castac Creek" on Tejon Quadrangle but incorrectly I think.

3 May 1920.

No. 8935. Isomeris arborea Nutt. var. globosa Cov. at foot of hill, when coming down from Ridge Road, just before Tejon Pass.

No. 8936. Artemisia tridentata Nutt. ssp. tridentata

No. 8937. Gilia tricolor Bth. var. longipedicellata Greenm. Near Ft. Tejon.

No. 8938. Astragalus douglasii Gray. Near Ft. Tejon.

— The mountain scenery from the Ridge Road is surpassingly fine. Deep canons, great chaparral slopes, rocky ridges and a multitude of peaks. Westerly lie the great peaks of Frazier Mt. and Mt. Pinos.

Tejon Pass, 4 May 1920.

We run down from the ridge road into the north westerly arm of the Mohave Desert over which we have a limited view, but a fair view of the double peaks at Tehachapi. We enter and run thru the pass. The outstanding feature in the pass is the stately assemblage of Valley Oaks (Quercus lobata). Coming down the last ridge off the Ridge Road I noticed the Black Oak (Quercus californica) and I think also Quercus lobata on the lower slopes.

Bakersfield Plain, 4 May 1920.
btw. Rose sta. and Bakersfield Kern Co.

As we come out of the canon of the Tejon we have a fine view over the wide expanse of the upper San Joaquin Valley plain. It slopes with an almost accurate grade to the low moist central area of the Buena Vista lake. Nearer at hand on this plain we see a great expanse of blue. When we near it we find it is a Lupine in full flower, —

No. 8939. Lupinus nanus Dougl. var. menkerae C.P. Sm. This species covers at this time with its color zone five or six thousand acres, varying from a slight color-ation to lakes and pools of deep blue. —

No. 8940. not Plagiobothrys nothofulvus Gray. Sandy plain. = P. arizonicus Greene.

No 8941. Hemizonia pallida Keck.

This member of the Madiod tribe continued all the way

to Fresno. It was often abundant as on the Bakersfield Plain, coloring acres and acres.

No. 8942. Oenothera trichocalyx Nutt.

Stems radiating prostrately over the ground and flowering, flowering later than the erect central axis which has ripe pods or may have by the time the laterals begin to flower. Each stem has one pure white flower in anthesis at one time, so that the radiating spokes produce a very pretty effect. The fls. fade pinkish. Sandy spots. Annual.

No. 8943. Lycium cooperi Gray.

Dark green shrubs 4 to 6 ft. broad and 3 to 4 ft. h. Sand dunes.

No. 8944. Gilia liniflora Benth. Linanthus liniflorus var. vallicola

This is the most abundant

species on the dry plain from Bakersfield to Fresno.

[About Mecca, and 6 to 10 miles southerly, the desert shrubs are luxuriant; I noticed particularly Atriplex lentiformis. No. 8612 (from Vallecito) or a closely allied form of it, recurs here.

The numbers 8945 to 8956 are given to plants not numbered in the field, the sheets being marked with a station only, at the time of collecting:

No. 8945 Mimulus Bigelovii Gray. Det: A. L. G. Vallecito. H. A. Dutton. 15 Apr., 1920.

No. 8946. Mentzelia albicaulis Dougl. Wagon Wash near Sentenac Cañon, San Diego Co. See vol. 37 p. 144. 24 Apr., 1920

No. 8947. Gilia virgata Stend. = Eriastrum eremicum (Jeps.) Mason with 8946. 24 Apr. 1920. See p. 15.

[Vallecito, E. San Diego Co., 15 Apr. '20]

No. 8948. ~~Populus~~ Prunus fremontii Wats.
With 8946. H. A. Dutton. 24 Apr., 1920.

No. 8949. (Discarded) Chorizanthe brevicornu
With 8946. H. A. Dutton. 24 Apr., 1920.

No. 8950. ~~Fallugia~~ Psorothamnus schottii Hel.
(Det. R. E. Barneby, 1967)
With 8946. H. A. Dutton 24 Apr., 1920.

No. 8951. Eriogonum reniforme Torr. & Frem.
Vallecito. H. A. Dutton

No. 8952. Eremocarya = Cryptantha micrantha, Greene.
Vallecito. H. A. Dutton.

No. 8953. Larrea divaricata Cav.
Vallecito. H. A. Dutton.

No. 8954. Eriogonum thurberi Torr.
Vallecito. H. A. Dutton.

No. 8955. Schyronychia cooperi T. & G.
Vallecito.

No. 8956. Brodiaea

— Nuttallia eremica Jepson. No. 8947.
Cont. from p. 13.

{ Collected by H. A. Dutton
W. L. Jepson #

– Mr. & Mrs. S. B. Parish, so long residents of San Bernardino, moved to Berkeley in the middle of May, having bought a home at 1632 Scenic ave.

– California collectors. cf. "Guide to the County Archives of California" by Owen C. Coy. (see letter June 9, '20).

– Hermann, Dr. A.L. was 3 years in Cal. collecting before being attached to the Williamson Survey says Jos. Grinnell who has compiled records from Journ. Phil. Acad.

– Jeffrey, John. The letters that passed between the Balfours of Edinburgh and San Francisco owned probably by or borrowed from Sir Robert Balfour. See p. 57. re. Jeffreys.

– Brodiaea ida-maia = Irishman's Delight. see Reed, C.A. in Pitt. 25 June '20.

– Nemacladus sheets in herb. Show the loose ways of the Brandegees in mounting. Two collections on one sheet, it being impossible to tell with certainty which specimens belong

to which label.

– Dr. Kennedy says: In my forage work T.P.B. I have found it most difficult to establish forage conditions on cut-over Redwood lands. It is hard to kill the new growth. It cannot be done by cattle and sheep; only by goats and closely confined at that for a period of four years! It certainly is a hard tree to kill – the most difficult of all. It grows on the clay-loam hills; will not descend to sand-loam hills. The Vanilla-Grass is found only in the Redwood belt; you have to go to the Redwoods to get it. Danthonia californica is a good forage but the former grass is useless. The native forage plants are coming in again along the coast. Triglochin

maritima is poisonous to sheep. Determinations made by Fleming at the University of Nevada. Azalea occidentalis is poisonous too, to sheep; but it makes a difference how the sheep are handled. Two camps in the high San Joaquin country; two sheepherders; the two camps alike in vegetation. But, one sheepherder hurried his sheep, worried them, and they snaped a bit hurriedly here and there and often got the Azalea; the other one allowed his sheep to move placidly and he said his sheep never touched the Azalea! — 21 May, 1920.

— Wolves and Coyotes in Cal., destruction of. — U.S. Biol. Sur. Circ. 56, 58, 63. — U.S. For. Serv. Bull. 72.

— Sambucus glauca Nutt. Berries made into jelly by Mrs. Mary Ferguson, Berkeley. Dark purple color, aromatic and with a somewhat wild taste. Excellent for meals. — July, 1920.

— Left Vacaville with Judge Platt at 9 a.m., running out over the Dixon plain, north to Woodland (see p. 33), thence via Cacheville, Black's Sta., and Hershey thru Arbuckle to Williams. Botanized a bit in the gravel bed of Buckeye Creek (N. Yolo Co.) near Hershey Sta. From Williams went directly west over the Bartlett Spr. road to the Mountain House, thence over the range and down into Bear Valley, a valley barren of trees on its floor, and perhaps 10 or 12 miles long. An abrupt narrow ridge lies in the north part of the valley, north and south, behind the village of Leesville. Its crest is very sharp and very strongly peaked and toothed for so small a range. We drive south to the end of it, turn west and stop at the foot of the hill where we collect 8964 to 8972.

No. 8957. Cryptanthe floccida Greene. Creek bed by Hershey (Buckeye Creek).

No. 8958. Eriophyllum Creek bed, Hershey

No. 8959. Lotus scoparius Ottley Creek bed, Hershey. Yolo Co.

No. 8960. Astragalus douglasii gray. Creek bed, Hershey. Yolo Co.

No. 8961. Brodiaea grandiflora Anthers longer than staminodia. Foot of grade below Mt. House* In very hard ground.

No. 8962. Eriogonum dasyanthemum Grade above Mt. House*, abundant.

No. 8963. Pentstemon heterophyllus Lindl. Grade above Mt. House*. - There is a large amount of young Valley oak above Mountain House.

* Mt. House = Venado, acc. to Forest Service maps.

c. 1400 ft. Bear Valley, sw. Colusa Co.

No. 8964. Ceanothus cuneatus Nutt. Bear Valley, near Leesville c. 1400 ft.

No. 8965. Gilia (Navarretia) catulaefolia Stend. Fls. white. In a low flat at foot of Bartlett grade, Bear Valley, west side, 2 or 3 miles sw. of Leesville

No. 8966. Pogogyne douglasii Bth. Filling about 1/4 acres of flat, with 8965.

No. 8967. Lepidium nitidum Nutt. With 8965.

No. 8968. Peucedanum With 8965.

No. 8969. Calochortus luteus Dougl. var. citrinus Nutt. With 8965.

No. 8970. Microseris douglasii douglasii With 8965. Hard ground.

No. 8971. Brodiaea grandiflora With 8965 (B. coronaria Jepson)

No. 8972. Linum californicum Bth. Buds pinkish, showing as

Ridge betw. Bear Valley and Indian [E. slope = Colusa Co.; W. slope = Lake Co.]

pink lines on outside of petals. The corolla otherwise white! Very abundant in one spot, covering 2 acres of hillslope 200 yards above flat where grew 8965; the whole place was white with it, forming a uniform stand. Gland scales 5, opp. base of petals. Digger Pine hillside. See p. 30 b. [I make out only 3 scales. – Nov. '30.]

No. 8973. ~~Eucharidium concinnum~~ Clarkia concinna Greene ~~Fr. & M.~~. East slope, Blue Oak country betw. Bear Valley and Indian Valley (= Stanton Valley), on ridge = Colusa Co. [Clarkia concinna Greene]

No. 8974. Rhamnus crassifolia Jepson n. sp. West side Bear Valley, on grade over ridge to Indian Valley. 3 to 5 ft.

No. 8975. Rhamnus californica crassifolia (Jepson) Coville. With 8974. 4 to 7 ft. h.

No. 8976. Ceanothus Jepsonii Greene. Near summit, on range

Valley, May 23, 1920, W. slope, in Lake Co.] Complexion Canon, Lake Co. c. 1800 ft.

between Bear and Indian valleys, west slope

No. 8977. Arctostaphylos viscida Parry. With 8976.

No. 8978. (Discarded, insect damaged) Wyethia

Flat on little valley just west of summit where 8976 was collected. See p. 37. (Complexion Canon and all on this page.)

No. 8979. Lagophylla dichotoma Blk. With 8978. Dry ground.

No. 8980. Convolvulus malacophyllus Greene. With 8979. Cor. white.

No. 8981. Lotus humistratus Greene. With 8979.

No. 8982. Zygadenus micranthus (Eastw.) ~~fremontii~~ Watts. Creek below spot where 8976 was collected, running west into Indian Valley near Stanton.

No. 8983. Styrax californica Torr. With 8982.

No. 8984. Cotyledon = Dudleya caespitosa Echeveria laxa Lindl. With 8982. Fls. saffron.

No. 8985. Brodiaea coronaria ssp. c. 1500 ft. rosea (Greene)
~~Baker~~ Nichans. Cor. pale pink white but soon turning rosy in press and justifying its name as soon as put into the collectors press. Altho I was driving the machine I recognized this at a glance as the probable long-sought B. rosea. See p. 30b, p. 38, p. 24b.

No. 8986. Nemacladus montanus Greene. Stream bed, Indian Valley.

No. 8986a.

No. 8987. Sidalcea hartwegii Gray. With 8985

No. 8988. Brodiaea peduncularis Wats. Anthers bluish. Corolla white with dull purple or indigo blue bands on back of segments.

We climb the ridge west of Bear Valley to the summit and descend the west slope collecting 8978 to 8984 and go on down into the floor of Indian Valley (sometimes called Stanton Valley) and collect 8985. We drive west up the canon following the North Fork Cache Creek to Houghi Spr.

No. 8989. Allium amplectens Torr. With 8986.

No. 8990. Peucedanum dasycarpum T. + G. var. medium Jepson. With 8985.

No. 8991. Delphinium uliginosum Greene. With 8986.

No. 8992. Scutellaria ~~austinae~~ ~~antirrhinoides~~ ~~Bth.~~ With 8986.

No. 8993. Allocarya tenera Greene. With 8986. (hispidula Greene var.)

No. 8994. Mimulus guttatus DC. Det: A.L.G. With 8986.

No. 8995. Allium aboriginum Jepson. With 8985. See p. 30b.

No. 8996. Hesperolinon disjunctum ~~Linum~~ ~~micranthum Gray~~ H.K. Sharsm. ined. (June 1959) Indian Valley, rocky soil

No. 8997. Plantago Indian Valley

No. 8998. Lagophylla dichotoma Bth. Rocky slope, Indian Valley.

No. 8999. With 8998.

24b. Indian Valley, NE. Lake Co., 24 May.
c. 1500 ft.

No. 9000. Mimulus Layneae (Greene) Jepson. Indian Valley, stream bed. Det. A.L.G.

No. 9001. Orthocarpus rubicundulus Jepson N. sp. Stream-bed, Indian Valley.

No. 9002. Senecio eurycephalus T. & G. Indian Valley, rocky slope.

No. 9002a. ~~Jodina~~ Clarkia amoena G. Don.

– Cont. from bottom p. 24. Indian Valley has a large floor covered with Quercus douglasii and Q. lobata. It is an interesting valley. We cross the stream which heads in the mts. north of the valley and drive southerly a short distance, passing over a low outcrop of serpentine. On this I discover Brodiaea rosea in full bloom. There are hundreds of plants occupying an area of about two acres. The stream joins North Fork Cache Creek, the main water-course; we turn west and follow Cache Creek up a broad cañon to Hough's Sprs., circa 5 mi.

Hough's Sprs, NE. Lake Co., 24 May, 1920. 24c.
c. 1600 ft.

No. 9003. Baccharis viminea DC. discarded

No. 9004. Baccharis viminea DC.

No. 9005. Arctostaphylos manzanita Parry. Hough's Sprs.

No. 9006. Cercis occidentalis Torr.

No. 9007. Clematis lasiantha Nutt.

No. 9008. Lotus grandiflorus Greene. var. mutabilis Ottley

No 9009. Collinsia bicolor Bth.

No. 9010. Lonicera

No. 9011. Trifolium obtusiflorum Hook. Stream bed,

No. 9012. Calochortus luteus Dougl. ~~var. citrinus Wats.~~

No. 9013. ~~Filago~~ Micropus californicus Fr. & M.

24d. Houghs Springs, n. fork Cache Creek. c. 1600 ft. N. Lake Co.

No. 9014. Allium amplectens Torr.

No. 9015. Delphinium

No. 9016. ~~Godetia~~ Clarkia purpurea ssp. quadrivulnera Spach.

No. 9017. Malacothrix Clevelandii Gray
This cichoriad grew in gravelly soil.

No. 9018. Linum micranthum Gray.
For notes on H., see apm. See p. 30b.

No. 9019. Clarkia rhomboidea Dougl.

No. 9019a. Apiastrum angustifolium Nutt.

No. 9020. Apiastrum angustifolium Nutt.

No. 9021. Cupressus macnabiana

No. 9022. Eriodictyon glutinosum Bth. = E. californicum Greene.

No. 9023. Rhus trilobata Nutt.

Houghs Springs, N.E. Lake Co., 24 May. c. 1600 ft. alt. 25

Species at Houghs Spgs.

- Adenostoma fasciculatum
Covers the hills in very pure if not wholly pure stands. The most abundant thing.
- Pinus Jeffreyana and Lambertiana the thin stands on tops nw. are said to be this.
- Pinus tuberculata, the little grove, 1/4 acre, near top of ridge northerly said to be this species
- Sambucus glauca
- Populus fremonti
- Aesculus californica
- Ceanothus cuneatus Nutt.
- Rhus trilobata (no. 9023) 5 ft. h. on flats.
- Quercus dumosa
- Fraxinus dipetala, common.
- Vitis californica Bth.
- Pirus sabiniana
- Holodiscus discolor
- Heteromeles arbutifolia.

Indian Valley, NE. Lake Co.

Species on the floor of valley:

- Quercus douglasii
- Pinus sabiniana
- Arctostaphylos manzanita
- Adenostoma fasciculatum
- Eriodictyon glutinosum Bth.
- Quercus durata Jepson

- From Indian Valley we returned eastward over the ridge to Bear Valley. Going up the ridge thru a cañon* I notice Cercocarpus ledifolius Nutt. Also there are a few scattered Cupressus macnabiana along the cañon bottom. I note one 52 ft. h. and 1 ft. diam., as measured by the eye at a distance.

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* Complexion Cañon.** See p. 26a. There are no "Complexion Springs" in this cañon, I think. There are "2 mi. W. of Willows." See Jepson Index Place Names.

* Complexion Cañon, E. of Indian Valley. c. 1800 ft.

On the west slope of the ridge east of Indian Valley I collect the following:—

- No. 9024. Pickeringia montana Nutt.
- No. 9025. Quercus durata Jepson.
- No. 9026. Pentachaeta bellidiflora Lindl. Bush 3 ft. h.
- No. 9027. Senecio Greenei Gray. Rays deep orange. Only a few individuals seen; in opens in brush.
- No. 9028. Eriophyllum. The rays are showy yellow but shrink excessively in drying as usual.

** I now have a letter from N. W. Stice, 1-6-48. There are "Complexion Spgs." in the cañon.

* This name I had from F. P. Gruensville. See his letters in Jepson Corr. There is a possibility I am applying his name to the wrong cañon. See p. 26.

Bear Valley to N. Fork Cache Creek
↑ Wilbur Sprs and

We come down the ridge into Bear Valley and turn south, run seven or eight miles over the valley floor and go down into a cañon, the cañon of Bear Creek, the stream which drains Bear Valley. On the floor of Bear valley the vegetation is now dry and brown. I collect only

No. 9029. Agoseris heterophylla

After running down Bear Creek several miles we cross from the east to the west bank by a bridge and turn up a branch stream, Sulphur Creek. In 2 or 3 miles we come to Wilbur Springs. On the way we find Tamarisk naturalized in the stream bottoms; and on the hills west 9031.

No. 9030. Tamarix ~~gallica~~ retandra I.

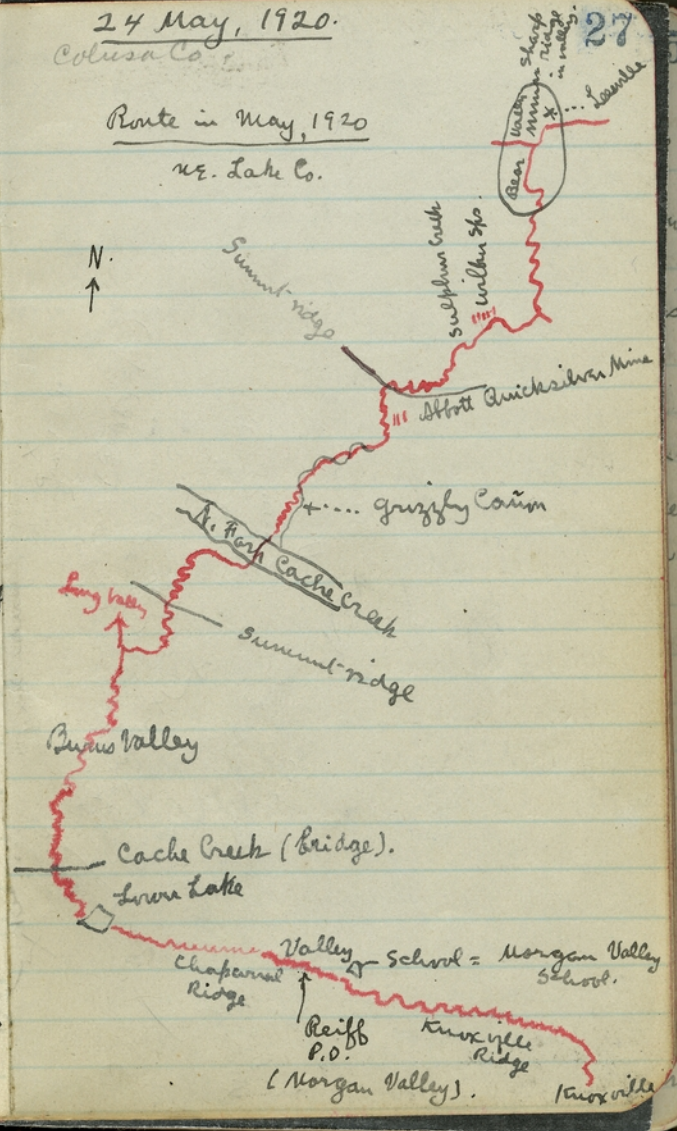
No. 9031. Linum californicum Bth.

24 May, 1920.

Colusa Co.

Route in May, 1920

NE. Lake Co.



Wilbur Spgs., Colusa Co.

to N. Fork Cache Creek

– There is a great mountain nw. of Wilbur Spgs. with very broad rounded summit. It is noticeable as being the largest mountain mass in its locality and must have a name, the inquiry failed to elicit it. = Bartlett Mtn.*

– Eucharidium concinnum, very abundant on dirt slides in the Blue Oak country.

– Brodiaea grandiflora, common thru all this country – the most common Brodiaea – seen all the way from Vinado.

– Arctostaphylos manzanita, near Wilbur Springs. Also near Abbott Quicksilver Mine.

– Pinus Sabiniana, Abbott Mine.

– About 1 mi. beyond Wilbur Spgs. we come to a collection of buildings known as Sulphur Creek P.O. We climb a very steep ridge, Blue Oaks and Digger Pine. Then down a mile or two to the Abbott Quicksilver Mine, which is now closed. We run over a lit-

* Went over it in 1938.

of hilly country* and soon strike down a water course which enters a deep canon. The canon is torturous and the wagon-trail, for it is no more, crosses and recrosses the stream an indefinite number of times. Part of the time the road is on the canon bottom bench, part in the stream bed itself. After about 12 miles we come out into a large canon with a narrow valley and broad stream bed in the bottom. The canon we have just come down is Grizzly Canon; the big canon is North Fork Cache Creek! There are a few farms on the narrow valley bench. We climb the next ridge and go down the other side and reach a "flat"

* passing in about 1 mile a "spring" which attempted to be a resort, but is now in decay. The name slipped me.

where there is a sign post:

Wilbur Springs, 15 mi. → n
S. ← Lower Lake, 7 mi.
S. ← Lakeport, 30.1. mi.
S. ← Middleton, 23 mi.
Sulphur Creek, 16 mi. → n.
Long Valley → w.
Ingram Ranch → n

The Wilbur Spgs. mileage is evidently a misrepresentation:

We drive southerly and after a short distance enter into a beautiful typical Coast Range valley, lying at the east of the lower end of Clear Lake, a valley with its Valley Oaks still upon it in primitive groves. This is Burns Valley. Interestingly enough there is

at the other end of Clear Lake Scott valley!

A sign-post at a road forks in Burns Valley reads:

Abbott Mine, 15 mi. →
← Lower Lake, 4.3 mi
Long Valley, 11 mi. →
Sulphur Creek, 17 mi →

We drive thru Burns Valley and enter rolling oak-covered country with beautiful views of the east arm of Clear Lake, Mt. Konocti rising grandly from the shores on the opposite side. We cross Cache Creek, the outlet of Clear Lake, by a bridge, then over more rolling country and down into a valley where is the town of Lower Lake. Here we have supper.

30 Morgan Valley to Knoxville Ridge
(wrongly called Jerusalem Valley in this book).

Another beautiful valley extends easterly from Lower Lake, set with Valley oaks. We continue easterly up a cañon, the road on its side wall, come down to a stream-bed crossing and then up, up. up to a high brushy ridge where we obtain a fine view of Mt. St. Helena, Cobb Mt. and all the ranges in that direction. We camp on the summit: Arctostaphylos manzanita is here. Next we come into Quercus douglasii country. Arctostaphylos manzanita again. Pinus sabiniana.

Next, a beautiful mountain valley with cultivated grain fields. It has farms and a school. I take it to be Jerusalem Valley. No! It is Morgan Valley.

Then a series of little flats and farms. = ? Morgan Valley

Then higher, higher, rough chaparral serpentine country where we find Fremontia californica in full bloom. Also Cupressus macnabiana, scattered trees, and plenty Quercus durata. In a seepage spot we (no. 9037) find Veratrum californicum, plentiful, with Delphinium uliginosum (no. 9038) and Zygadenus venenosus (no. 9040). This station

25 May 1920. Morgan Valley = 1800 ft., my estimate. 30

is on what I call the Knoxville Ridge.

No. 9032. Chorizanthe polygonoides Nutt. Mountain ridge, chaparral country, westerly from ~~Jerusalem~~ Morgan Valley. Pool bed bottom. c. 1800 ft.

No. 9033. Pentstemon heterophyllus Lindl. This was common all thru ~~Jerusalem~~ Morgan Valley, n. Napa County, and all the series of little flats which came after it easterly. The flowers were blue, sometimes a red-purple which is a very beautiful color. There is a schoolhouse in ~~Jerusalem~~ Morgan Valley. c. 1800 ft.

No. 9034. Thermopsis macrophylla H.&A. Flats near ~~Jerusalem~~ Morgan Valley. c. 1800 ft. Lake Co.

30b. ~~Jerusalem~~ Morgan Valley to [S. Lake Co.] c. 1800 ft.

No. 9035. Lotus humistratus Greene. Morgan ~~Jerusalem~~ Valley.

[Cont. no. 8985. One glance at the flower is sufficient to show that it is different and a distinct species. The anthers hug around the style but they are quite covered by the approximating staminodia which hug around the anthers. The staminodia are longer than the anthers and have conspicuously involute edges.]

[Linum californicum Gray no. 8972 cont. Put in water in laboratory this dries up soon; but Linum micranthum no. 9018 continues to flower six to 9 days after being brought in. It seems somewhat fleshy while 8972 seems dry-tissued.]

[Allium aboriginum Jepson, no. 8995, cont. Ovary with 2 erect crests on each lobe, the crests deeply toothed.]

Knoxville Ridge, 25 May 1920. = NE. Napa Co. c. 2200 ft. my estimate. 30c.

No. 9036. Fremontia ~~californica~~ napense (Eastw.) R. Lloyd ~~Torr.~~ occurred for about 1/4 mile. Did not seem widespread. See p. 30.

No. 9037. Nemacladus montanus Greene. See page spot on hillslope.

No. 9038. Delphinium uliginosum Greene.* With 9037. Not really abundant. See p. 30.

No. 9039. Cupressus macnabiana Scattered; not common.

No. 9040. Zygadenus ~~venenosus~~ micranthus Wats. With 9037. See p. 30.

* This locality quite remarkable. This plant grew in a "wash" or "run", if one can use either term, on a very steep rocky slope; a shallow gully bed heavily scored by water.

30d. Knoxville Ridge, ne. Napa Co.

✓ No. 9041. Bidalcea diploscypha Gray. Knoxville Ridge

✓ No. 9042. Orthocarpus rubicundulus Jepson. O. laetus Greene. Knoxville Ridge.

✓ No. 9043. Agoseris heterophylla Knoxville Ridge.

✓ No. 9044. Ranunculus occidentalis var. alceus Knoxville Ridge

✓ No. 9045. Senecio eurycephalus S. & G. Knoxville Ridge

✓ No. 9046. Brodiaea laxa = Tritelia Knoxville

✓ No. 9047. Arctostaphylos viscida Parry. Knoxville Ridge.

✓ No. 9048. ~~Brodiaea volubilis~~ Dichelostemma volubile (Kell.) ~~Baker~~ Heller Zem-Zem.

✓ No. 9049. Lupinus densiflorus Bth. var. aureus See p. 32. Zem-Zem.

Flowers yellow, soon changing to red-saffron or red-brown. Sliding banks.

May 25, 1920. c. 2200 ft. (my estimate). 31

The station for Fremontia californica no. 9036 and the species associated with it (9037-9040) is on the Knoxville Ridge 5 miles from the Knoxville Quicksilver Mine. The station for nos. 9042-9045 is 3 miles from Knoxville. Here is also the decumbent Weyethia (no. 8978)

Thru all this country between here and Lower Lake Quercus durata is abundant in the chaparral. Pickeringia montana is in fine bloom on the rough ridge this side of Lower Lake; and Ceanothus Jepsonii was in fruit.

Eucharidium concinnum is all the way (in appropriate stations) from Clear Lake to Knoxville. Brodiaea laxa is frequent at intervals in the same way.

Knoxville mine is long closed down, the cottages are fallen into decay but the fine stone building which housed the store and postoffice is still in good repair. Its second story is brick - showing a

lovely hue. I notice an Ailanthus tree and a Silver Poplar tree surviving.

We run s. down Knoxville* Creek with its narrow valley bottom. Douglas and Valley Oaks, the latter showing many young vase-shaped individuals. There is a great deal of Lupinus densiflorus Bth., no. 9049, on sliding banks. * Eticura Creek.

We continue on to Zem-Zem, where is a house on two. Still in the cañon. Three miles more on passing over a little shoulder of the cañon we see to our right westerly a typical beautiful Coast Range Valley crowded with Valley Oaks. I did not learn its name. It lies 12 miles this side of Knoxville.

In one mile more we are in Berryessa Valley and enjoying once again its lovely groves of oaks. On, down Putah Cañon where I collect the following:

No. 9050. Senecio eurycephalus T. g.

No. 9051. Malacothrix flocciferas

No. 9052. ~~Tilia~~ tagetina (Greene).

Hard ground, Sweeney Creek, nw. Solano Co. = Navarretia tagetina Greene.

No. 9053. Brodiaea grandiflora Sm.

With 9052. [= B. coronaria Jepson.]

— Eremocarpus setigerus. noted at Sweeney Creek; Judge Platt says that in Southern California it was called Stickerweed and Flannel Weed.

[Cont. from p. 19. The Quercus lobata trees still give a park-like effect to the country north of Woodland. There is more of it than I thought, continuing to Black's Sta. and some as far as Dunnigan. A tree of this species stands in the middle of the road, on

an east and west road, on the way from Woodland to Cacheville (= Yolo). Diam. at 4 ft. = 4 ft. 1/3 in. Height = 60 ft.

Between Yolo and Williams, but well west towards the Capay Range, there is an "extruded" lowlying foothill area wooded with (apparently) Pinus sabiniana and Quercus douglasii. We did not get near it.

No. 9054. Mimulus Bolanderi, 24 May. Hough Spr.
Var. brachydontus Grant. Det. A. L.

– Greene, E. L. He erects Bolelia in Pitt. 2:124 and transfers to it the species of Downingia. Shortly after this he publishes the new species cuspidata as Downingia, not as Bolelia. So Greene's name must be in the combination anyway.

– Today I went to Santa Rosa to speak in behalf of the Save the Redwoods League before the meeting of the Sonoma Federation of Women's Clubs. The meeting was held at the Rincon Club, 4 mi. E. of Santa Rosa in Rincon Valley. On the way back I collected near Novato the following: –

Var. bridgesii Greene.

No. 9055. Lupinus formosus Greene. Stems decumbent at base, then ascending and erect. Cor. blue; white spot of banner turning sordid in drying; keel glabrous. Lower calyx lip entire; upper lip evidently 2-toothed. Upper portion of wings becoming sordid in drying; lower portion remaining blue. These color changes may possibly have specific value.

No. 9056. Acaena pinnatifida L. var. californica Jepson = A. californica Bitter. Dry valley ground, rich soil.

No. 9057. Juncus bufonius L. Beds vernal pools.

No. 9058. Plantago

No. 9059. Hypochaeris glabra L.

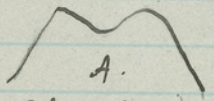
No. 9060. Agoseris aparigioides

No. 9061. Lepidium nitidum Nutt.

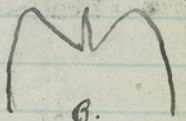
No. 9062. Hypochoeris radicata L. This composite was common.

No. 9063. Lupinus densiflorus Bth. Cor. white. This species formed colonies on landslides or broken hill-slopes, forming stretches of white all about Pt. San Quentin and continuing for several miles as far as Ark. This no. collected within the

prison grounds.

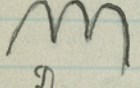


A. apex of upper lip of calyx

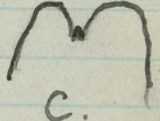


B. apex of lower lip of calyx.

Banner with its sides reflexed or turned backwards. The sides of its "palate" short-hairy. Above the palate, or on upper portion, purple dots. Upper calyx-lip short, membranous. Lower calyx lip green.



D. Apex of lower calyx lip; another fl.



C. Apex of lower calyx lip; another fl.

Lower calyx lip evidently very variable.

Lower portion of keel with its margin finely set with short hairs of equal length, a sort of furry fringe, not a ciliation because not a single line of hairs. Above this the keel is bordered by a narrow but distinct membrane of equal width throut.

– Downingia tricolor Greene. There is a spm in U.C. herb labeled as this in Greene's hand, "Suisun, 2 May 1890, Edw. L. Greene" It looks quite like D. concolor and probably differs very slightly. (– June 2, 1920 – W.L.J.).

– The country in the inner Coast Ranges, east slope, Colusa, Glenn and Tehama cos. needs exploration in the spring. I have no doubt that Brodiaea rosea will be found north of Indian Valley in similar situations. Likewise the species

of Senecio, Heuchera, Delphinium uliginosum and so on which I obtained in Indian Valley. The flowers of B. rosea, I may note here, become somewhat rosy in age.

– Umbelliferae is now receiving my attention in the way of revision for the new edition of the Man. My students, even graduate students, rarely criticize authors violently but in attempting to use Coulter & Rose's Revision of the N. Am. Umbelliferae, called a "Monograph" they do not restrain themselves in condemning its unequal genera and loose species and splitting of species. of W. Am.

Pseudocarum is a case of unwarranted splitting up into four genera.

I am now on Ligusticum. The division of certain species

into 2 groups, stems leafy and stems not leafy is evidence of unnatural division. L. grayi C&R. n sp. is in the non-leafy class but a spm. called "Brewer, Ebbetts Pass" has a stem as leafy as L. apiifolium in the north (Wash. Odre.) & which they restrict that species. Cusichii 1799 (L. cusichii C&R.) is as like Deer Park (Flax) as two peas. The whole thing is "wild". Even if the original L. apiifolium (mouth of Willamette) is different, then L. cusichii, grayi and pringlei are all one!! The name L. grayi would have precedence of these three.

Perhaps in order to get species at all in this genus C.&R. have to cut to hair points. Ligusticum bigelovii C. & R. looks like one.

Spermolepis echinatus Heller, attributed to Cal. on basis "Oakland Hills, Lemmon in 1899." Either an error outright or a transfer of labels. Never been found since and no spms. in herb. anywhere from California.

Apium annui Urban, put in California by C. & R. on the basis of "Douglas in 1833". This Mexican plant may have been a casual escape about some Mexican town in Douglas' day but evidently did not persist. I have no spms. from California.

Osmorhiza, the species of Coulter & Rose in the main poor.

O. divaricata (Britton), Morgan, Tehama Co., Hall & Babcock 4408 is very glabrous & so not wholly so. Corrector det. as this by Hall; but it does not differ except in pubescence from his no. 331 Pine Ridge, Fresno Co. which he names O. nuda. The two spms match beautifully. The Washington state spm.

of Heller 3975 (Montesano) is very pubescent. It is well matched in every way, esp. in its large leaflets, by Grant Forest, K. Brandegee, det. by her as O. nuda. Divaricata is a "beaked" species, the beak 1 line long. But the beak is as marked in my Tamalpais spms. of O. nuda.

– O. ambigua C&R., Cascade Mts., Wash, Allen 256 det. Gray Herb. is matched in foliage and fruits by Bloody Cañon, Chesnut & Drew (O. occidentalis). The pedicels in Allen 256 are (3 lines) a little longer, than in Chesnut & Drew (1 to 1½ lines) but in Congdon, San Joaquin Pass, O. occidentalis which also matches with Allen 256 they are sometimes 3 lines. C&R. say fruiting rays widely spreading in ambigua. Suksdorf's 760, Mt. Adams, is ambigua and the rays spread no more than in Congdon. The rays spread well in Allen 256. This

point may have some little value. I have no spms. of ambigua from Cal., but Howell says "Cal." It probably does not occur in a form which can be set off from occidentalis.

O. brevipes C&R. is based on pedicels shorter than fruits but in various spms. are as long (Los Gatos, Heller 7430 det. Heller; Mineral King, Hall & Babcock 5667 det. apparently K. Brandegee) and nearly as long (Mt. St. Helena, K. B. det. K. Brandegee). Mt. Tamalpais spms. of O. nuda show pedicels as long as the fruit or a little shorter. As to umbels nuda or Tamalpais has "3 to 7 rays" – the character given for brevipes. Brevipes has no more distinct a beak than nuda. The pedicel character is not a good one. O. divaricata (Britton) rests on its glabrous char., but it is often no more glabrous than Tamalpais O. nuda and its fruits no more beaked than in Tamalpais specimens. – Cont. on p. 52.

— S.N. Wyckoff, one of my former students, has just been here for a conference. He is now again a student with me in graduate status. He is in the U.S. Bureau of Plant Industry, stationed in Berkeley, on the investigation of pine rust. He has therefore been assigned the job of working up Ribes systematically and is doing the work under me in fulfillment of work for a masters thesis. He finds it impracticable to use the North American Flora account of Ribes. The species are split too finely and the work poorly done besides. He says it is current gossip in the U.S.D.A. at Washington among Bureau of Plant Industry men that Britton expected Coville to get the ms. ready, while Coville thought Britton was going ahead on it. The result was that when the time came the two simply threw together what they could — with the result we all know. Wyckoff travels all about the Pacific Coast on this work. He is allowed $5.00 a day expenses. He says it is hard nowadays to keep within that. Bethel is his chief here. Bethel stopped at Al Tahoe, a new resort on Lake Tahoe where room and board is $7.50 per day. He was thus out $2.50 per day, in order to get done the particular work which he wanted to do at that point.

These narrations make me smile withinside. My Flora of California would never

become a reality under any such scale of expenditure, because the author foots all bills of travel and expense.

In all the years of my going about California in collecting expeditions I have seldom stopped at a hotel. In the old days I traveled with a camp-wagon and made camp for the night. Now-a-days I travel by machine and camp where night over-takes me. It is a great thing to sleep under the open sky. I shall never lose my joy of it. And it is rarely that the ground or the rocks seem hard. Besides in this way I am always in the field, where plants are, and not fussing around towns.

— Went over to town today to lunch at the Pacific Union Club as guest of W.B. Herrin, Vice-President of the Southern Pacific. He has an amateur's interest in the native plants and birds and will travel a long distance about the state to see an interesting species. He rather surprised me by his knowledge of the scientific names of plants which he always uses in preference to the common name, but not in at all affected way. Of course he travels in his private car and expressed a desire to take me up into the Shasta country to botanize next week or any time. I made my excuses as I am programmed on finishing the Manual for California. These things all come too late. I should have

been delighted at such an opportunity 20 years ago when I had more time.

Herron says he found between Napa and San Rafael Bellardia Trixago. He referred to Greene's Man. as being the only book in which he could place this species. I remember being in doubt as to whether I should include this in ed. 2. Fl. W. Mid. Cal. Mrs. Brandegee who went over the annotated copy of the 1st ed. said "Leave out". She couldn't detach herself from the fact that Greene said it was established and she was against him!

— Bridges, Thos. There must be writings by this collector which I have not yet noted but which had vogue as early as 1851. See Seeman, Volknamen Amer. Pflz: p. viii.

— California Collectors. See list from Millspaugh, Oct. 1920 (ms.).

— Heller, A. A., puts down Mt. Sanhedrin as "Lake Co." on label of Osmorrhiza brevipes C.R. Heller has been extremely accurate in his geography of California, in contrast to most Easterners. Sanhedrin is partly in Mendocino Co. and partly in Lake Co.

— Director of the Southern California Branch of the University and I dined together tonight. He expressed surprise that geologists had not become wealthy finding oil or gold. I pointed out that seldom did the scientific and the money-making bent meet in the mind of a scientist; at any rate the scientist is absorbed by other things, the scientific ideal. I compared him to the desert rat who if he found a great mine today would get rid of it and be off again tomorrow absorbed by the eternal quest, the lure of things beyond the next mountain range. I told him about Mc.

Millen in Mason Valley worrying because his "partner" had not arrived to help him in with his hay – a one man's job for two days! And as soon as the "hay was in", off the two went prospecting! – June 27, 1920.

– Dr. Smiley says: "Since Mrs. B's death Mr. Brandegee has been here every day at the Herbarium, working, and has "picked up" a lot. He seems very cheerful and contented and really appears to be enjoying life since he was freed from the intellectual dominance of Mrs. B." P.S. Brandegee is a decent man and good sport * Cont. p. 57.

– Brodiaea ida-maia = "Irishman's Delight", the green being above the red. – C. A. Reed in litt. June 25, 20.

* Miss E. Ferguson asked: "Who are Mrs. B's friends? She did not speak well of Mr. Brandegee". Nevertheless I

think Mrs. B. was truly fond of Mr. B. whom she called "Dolly". I think she truly liked Professor Setchell who had considerable trouble in holding her down when she tried to run amuck. – Cont. p. 57.

Mrs. Ellen White says: "I used to go to see Miss Alice Eastwood when she lived in a loft in the "western addition" in San Francisco. She is a fine cook, a fine cook – but she doesn't make connections in her clothes anywhere."

– Dr. Geo. D. Louderback says: The Pleistocene is about 7000 feet thick along the coast. The freshwater Pleistocene near Mt. Diablo is 6000 feet, nearly as thick. All our local topography is post pleistocene. There hills back of Berkeley; the submerging of the valley in front of us so as to make the bay; all the familiar topography is post pleistocene. Pleistocene Cont. 56.

Cont. from p. 43. — O. ambigua is attributed to Bd. as said in p. 43. It probably does not occur in typical form. My Warner Mts. (Eagle Peak, #7960) has a somewhat open umbel but no more open than in one sheet of my Summit-sta., Nevada Co., spms. of O. occidentalis and the fruits are scarcely beaked.

Cicuta. Halls 9376 (Quincy, Plumas Co.) does not seem dif. from Tracy 2597 and 4612 (Humboldt Co.). The latter he names C. douglasii, the former (his own spms.) C. occidentalis. There is presumed to be a dif. in fruits when seen in x-sect., especially in channeling beneath oil-tubes; but I get much the opposite for the two that Miss Parker gets (see her drawings). This point showed be worked further but it would be remarkable if the two species agreed in everything but this one point, — habit, appearance, umbls, involucre and involucels, etc. Umbels and leaves in serration are undoubtedly alike. Hall is exceedingly courteous when dealing with other men's species and his consideration for Rose is marked. There is danger in such a case that one may be deterred from facing the facts boldly enough or may be shrinking from an evident conclusion. [Cont. — bottom p. 80 seq.]

— Horn, Hosea B. Horn's Overland Guide from Council Bluffs to Sacramento with table of distances. Maps, etc. N.Y. 1852.

— Kellogg, Dr. A. His religious feeling showed even in his labels on plants: "March 28 A.D. 1867 below the Fruit-Yard on Corbett Road to ocean in the field. S. Fco. Cal" on Allocarya Chamissiana. U.C. Herb.

— Jones, M.E. It strikes me there are few specific names resting on his family name, considering the number of new spp. discovered by him. Cf. Carex Jonesii Bailey.

No. 9064. Foeniculum vulgare Gaertn. Benicia, old lanes near the U.S. Military Barracks. July 10.

No. 9065. Asclepias speciosa Torr. Lagoon Valley, Solano Co. July 12.

No. 9066. Ammi majus L.

Near Napa on road to Napa Soda Spro. near Salvador School. Common all along the East side in low places. July 12.

No. 9067. Arctostaphylos viscida Parry ~~mariposa~~ ~~Dudley~~. Chiles Creek hills near the Old Chiles Mill. July 12. (= A. viscida Parry.)

No. 9068. Linum californicum Bth. Cor. white. Dry hills, with 9067.

No. 9069. Ceanothus Jepsonii Greene. with 9067. July 12.

No. 9070. Carex nudata Boott

Forming heavy tufts, each tuft mostly separate, in the rocky boulder-stream bottom of upper Chiles Creek. Habit similar to No. 8280 at Paper Mill

creek.

No. 9071. Carum Kelloggii Gray. Red cross-ridge at mouth of Conn Valley. July 12.

No. 9071a. Juncus

Near Yountville. A young Italian came down the Napa valley road, his vegetable wagon-loaded with sheaps of this rush. I passed him; about a mile on I stopped. When he came up I signaled him and we had a talk. He told me that the rushes were used for tying up vegetables, that the stems became tough as string when cured, that is when dry. They are about 4 to 4 1/2 feet long. The specimens of the sheet I took off his wagon. This was on the east side road, going toward Napa

[Cont. from p. 51] is a geological feature and record of great importance but not in present topography. I have climbed the hilltops and tried to visualize Miocene topography. It is very difficult. The Santa Barbara Islands are post-Pleiocene in their present form and area.

No. 9072. Geranium pilosum Forst. Se. cor. Bowditch & Durant sts., on Bowditch. July 15. Only a few plants.

— Teratology. Ptiloria virgata Greene. Fasciation. San Jacinto Mts., Geo. F. Reinhardt.

— D. Cleveland. Coll. Ambrosia pumila at San Diego, June 1876, which indicates an early residence there.

— Brandegee, K. Eunanus layneae Greene was in her honor.

[Cont. from p. 50. Dr. Smiley told of Mr. Brandegee's rejuvenesce with the air of bright geniality of one who has made an unexpected and pleasant discovery!]. Mrs. B's lax habits in labeling spms. is a cross. - no date, obscure or no locality. Zoe is one of the hardest of small journals to use. Looking for Mrs. B's Bouldin Isl. paper I had to search thru 4 vols. to find it. Neither titles nor authors are put in the indices and the tables of contents are arranged acc. to pagination, not alphabetically.

— Sir Robert Balfour, care Messrs Balfour, Williamson & Co., 7 Gracechurch st., London, E. C. 3. England. See p. 16 supra.

— Pickeringia montana. White-flowered! Near Santa Rosa, 2500 or 2600 ft. Grace Elmore. See letter July 1920.

— Torrey, John. cf. Bull. Torr. Club 27:540 for sketch of his life.

No. 9073. Pentstemon corymbosus Bth.
In rocks at very summit.
Cor. deep crimson.

No. 9074. Quercus chrysolepis Liebm
Black Hills

No. 9075. Eriogonum pendulliflora Bth. South slope, toward summit.

No. 9076. Dicentra chrysantha H.&A.
South slope, towards summit.

No. 9077. Sphacele calycina Bth. = Lepechinia
With 9076.

No. 9078. Hemizonia virgata Gray.
Rays golden. Towards summit.

- Drove to very summit via Green Valley, i.e. from south side of the mountain, with Mrs. M.V. Ferguson and Miss E.V. Ferguson, the latter planning to take Mt. Diablo and its plant geography for a doctor's thesis.

- Drove to Donner Canon (Contra Costa Co.) and walked up the trail as far as the Cold Spring which lies beneath the saddle between the two peaks and about 800 ft. down.

The Arctostaphylos glauca tree which stands on a ridge about half way up to the spring I must have measured previously I think. It is 63 in. circ. at 4 in. above the ground, very erect and broad headed. I estimate it to be 18 ft. h., it branches freely, fully, densely and is fully 24 ft. broad across the crown.

Ptelea baldwinii is turning yellow and dapples the slope above Cold Spring well toward the summit of the west Peak. It also occurs below Cold Spring in the trail as it runs alongside the slope laterally. It is 12 to 18 ft. h. in such situations.

Rhamnus crocea is a fine shrub on the mountain slopes here. It

Mt. Diablo, Sept. 6, 1920.

is commonly many-stemmed. One shrub is 16 ft. h., 4 shoots 3-4 in. in diameter at 2 ft. – Arctostaphylos glauca Lindl.* 63 in. circ. at 4 in. above ground, erect, broad-headed, 18 ft. h., 24 ft. broad crown! On Blue Oak ridge from Donner Cañon to the spring under saddle of mt. Diablo.

No. 9079. Rhamnus crocea nutt. var. ilicifolia ~~Greene~~ (Kell.) C.B. Wolf?

No. 9080. Lonicera subspicata H. & A. There is a shrub on the ridge well above the Big Manzanita on the trail to the high spring, distinct thicketty shrub 5½ ft. h! No climber is it, but a distinct erect independent shrub.

No. 9081. Quercus morehus Kell.

No. 9082. Ptelea See p. 59.

No. 9083. Cercocarpus parvifolius = C. betuloides Nutt.

No. 9084. Aquilegia ~~truncata~~ ~~Jepson~~. moist bottom, cañon, half-way to saddle.

No. 9084a. Juniperus californica Wats.

* This is an inadvertent repetition of the note on p. 59.

– Ellsworth Bethel, engaged on White-pine Blister Rust Control for U.S. Bur. Pl. Ind. + For. Service came to call yesterday. He talked in a lively manner of the value of systematic botany. "So many men are helpless because their training is one-sided, especially pathologists. We get better results from sending a systematic botanist into the field than from a pathologist alone. The latter does not know how to see things, how to find things. The systematic botanist has been taught to notice and discriminate." Bethel was the successor of Miss Eastwood in the Denver High School and remained there for 27 years.

– Red Shanks, a name for Adenostoma sparsifolium. Given me by one of the faculty, I think Crocheron.

Dr. E. D. Merrill, Director of the Bureau of Science in the Philippines is here. He published a Flora of Manila in 1911 (about). He is preparing with W. H. Brown, the Physiologist, a Tropical Botany, for students. The systematic part is to be pan-tropic and contain all the genera, at least of useful plants. This he has completed or nearly so. He says there are about 10,000 species in the Philippines, of which 3500 are trees. About 4000 species in Java, 1500 trees, this island being the least rich of a tropical forest. A tropical forest consists of 3 stories, the smaller trees forming an understory to the main forest trees, while the shrubs are below this. It is difficult to secure flowering specimens from the trees in a tropical forest. One reason is

the height. Flowering branches fallen to the ground may give no clue as to what tree they came from. One may pick a flowering branch directly from a tree and yet be able to get no idea of the tree itself in the jungle. Merrill is working on and has nearly completed a bibliography of flowering plant species in the Philippines. He says 90% of the orchids are endemic. His bibliography will really be an enumeration of the seed-plants, original place of publication of the binominal, synonymy, citation of specimens, etc. Also native names of the various tribes.

– J. S. Newberry. California Collectn. Portrait in Trans. N. Y. Acad. Sci. 12: frontispiece).

– Greene, E. L. See Sargent, Silva N. Am. 8: 84.

No. 9085. Pseudotsuga ~~taxifolia~~ menziesii (Mirb.) Franc. Britt.

No. 9086. Ericameria arborescens Greene.

– Allocarya. The revision by Piper Contrib. U. S. Nat. Herb. 22: pt. 2. is an exasperation. He makes a large number of new species, compares these in certain points with previously published species. You turn to the species with which compared and you find no description. It is annoying. Of course one can go back to the original description but since he has segregated so many new species his conception of these old species must be new. All spms. noted below det. by Piper.

A. stricta Greene. In key he says scar "ovate." In Calistoga, Greene det. C.V.P. the scar is linear or at most a little broadened below.

A. undulata Piper and A. minuta Piper seem the same. Scar narrow-

linear; undulate-rugulose.

A. diffusa Greene + A. areolata Piper are close. Scar ovate. Dorsal carina at apex only. Rugulose and somewhat areolate. A. diffusa (Marine Hosp., Greene); A. areolata (Tracy 4486 + 3009). A. scalpta Piper is close to A. areolata. One is no more areolate than the other, i.e. both are a little areolate, at least obscurely so. Scalpta would be described as transversely rugulose.

The difficulties are shown by A. scalpta and A. undulata, quite alike! save the former has an ovate scar and the latter a linear scar, but the sculpturing, size, rugae are the same in the two!!

A. ambigens Piper (Heller 8682), its nutlets in sculpturing and shape quite like A. conjuncta Piper (Heller 7321), only larger. I cannot really see that the former is any more "lanceoloid" in its nutlets, than the latter. I think maybe a slight dif. is to be seen but it is most slight and vague to define. Yet again, A. am-

bigens mitlet is a most perfect match for A. stipitata in size and shape and sculpturing, save only in scar.

A. myriantha Greene, mitlets sharply and somewhat brokenly rugulose, somewhat 3-ridged, i.e. medianly and in each shoulder. It does not look like A. Chrysiana very much and its ventral groove is not well-defined. The San Simeon (T.S.B.) spms. are not "conspicuously granulate").

A. undulata Piper & A. californica are quite alike in sculpturing, scar in both linear but twice longer in the former. A. tenera Piper (Hall 4155) (Th 4 times) and A. fratensis (Hall 4162) seem quite alike in mitlets. Under compound microscope 2/3 in. Obj., I cannot make out any glochidia in tenera nor any bristles in fratensis.

A. ambigens Piper. I return once more to the remarkable resemblance between this species and A. stipitata. The mitlets are of the same size, the same shape and markings even the flattening on the back below the point where the dorsal carina runs out. And yet one has a strictly basal scar and the other a lateral-basal scar.

I revert to p. 65: the mitlets of A. undulata and A. scalpta are truly marvelous matches in size, shape, color and rugae. The solitary point of difference lies in the scar, linear and long in undulata, short and ovate in scalpta.

It would seem that the sculpturing of the mitlet is not of much importance, tho' I arrive at this with many doubts — a good deal of misgiving. No two species in Allocarya are further apart probably than A. mollis and A. californica, and yet the sculpturing and shape of the mitlets are essentially alike, the differing much in size. On the other hand A. diffusa is

so well matched by A. interrasilis that I cannot but regard the two as very close tho the latter has a somewhat more definite dorsal keel and looks a little towards trachycarpa.

A. trachycarpa is exactly the same as A. interrasilis except that the rugae are sharper and more dentate. Of course according to Piper the keel of A. diffusa lies in a groove and A. interrasilis does not. But as I have nutlets of the two (det. Piper) side by side I see no difference of any kind that I can express. In the non-groove species the ventral rugae run into the keel, but I see a ruga run into keel in a nutlet of diffusa. Certainly in stricta, which is in Piper's Sulcatae, the rugae run into the ventral keel most decidedly and there is no appearance of a "groove" whatsoever. The scar seems excavate.

Piper gives as a character of his

section Californicae that the epidermal cells are muriculate. I cannot see this character in A. californica but under the compound microscope, 2/3 in. obj. it is very obvious in A. areolata, reticulata and minuta.

A. californica & A. scalpta are alike in size & sculpturing of the nutlets, especially the sculpturing. The scars differ: ovate in former, linear in latter.

A. californica is likewise close to A. cooperi. I do not see why A. cooperi's keel of nutlet should not be regarded as in a groove by Piper.

A. divergens Piper (Diego) and A. humistrata Greene (Antioch) (San) as conceived by Piper. I see no dif. between nutlets of essential character except position of scar. The bristles in each case are essentially alike. It is my feeling that such species ought to stand together, at least, and not be separated in separate sections. But I have no plants of

either and I'd like to see how plants of the two compare, habit, leaves, calyces — I see that I have a plant from Byron, E. L. Greene, Mar. 23, 1889, det E.L.G. as A. humistrata. It has the scar basal! Piper does not quote this tho it is part of a sheet which went with the Greene Herb. when Greene left Berkeley.

— Floerkea. It is my present view that Floerkea douglasii Baill., rosea Greene, and alba Greene are good species. While the scale-like processes of the nutlets are much the same in F. douglasii and F. rosea, in the latter they are set densely all over the nutlet so that it is echinaceous, in the former they are few and only at the top, in rosea these processes are covered with rounded or pebble-like tubercles or granules which are very minute and these in turn are

covered with microscopic scales! These tubercles or granules are found only on the margins or edges of the ridges or plates which make up the processes. Such tubercles are not found in F. douglasii; but I do find them in F. alba. In F. alba the processes seem composed of distinct strands or plates so as to be hollow or as if lattice-like. I have no very mature nutlets of this species but the fruits in Heller's Oroville no. 11,261 are fairly mature. The granules, as they should be called, are rather clear as compared with those of F. rosea, but are covered with microscopic scales in the same way. Perhaps F. alba and F. rosea do not differ except in pubescence. F. douglasii has a white-flowered form, i.e. with no yellow in center, as at Mt. Hamilton. I would prefer to restrict F. douglasii

to the Coast Ranges; leave the great valley to F. rosea and the northern Sierra foothills to F. alba. But Heller's 11224 (Oroville, 8 mi. n.) is undoubtedly F. douglasii and so apparently is Hopping 275 (Kanaah). But F. douglasii appears to be so scarce in the Sierras that the specimens quoted from there leave an unsatisfied doubt in some respects.

— I have been fussing with Cucurbita foetidissima. It is my opinion that Parish's concept of Cucurbita californica will not hold. Its pubescence is no harsher than in other species which he calls C. palmata and the ovary no more hispid. Is it not possible that the lobulated fruit is a freak? Of course if the fruit is distinctive then the species must be maintained but some correlated character should be found.

Echinocystis. E. Oregana looks in every respect like E. Marah.

and seeds

The fruits of Marah are very distinctive. We have no sheet of Oregana showing seeds excepting one. The seeds in this do not appear to be as flat as in E. Marah, in which species they are very flat! But I should like to see a longer series. If Oregana should be found to include E. Marah its range would be typical of northern species which range south to San Francisco Bay.

E. inermis Congdon is no more than E. fabacea, but Congdon says "corolla bright white". However it should be looked up in situ.

— Hiked down to the Oakland Hills Mar. 13. The degree of abundance of Osmaronia cerasiformis is very obvious at this time, because its young foliage is yellow and

spots the brushy north slopes very markedly. One sees that there is a good deal of it, altho not forming dense colonies.

Baccharis pilularis is a very bright grass green and shows up now in the hills. It has by this time lost nearly all its old leaves.

Echinocystis murah is now in full flower. A short distance this side of Thorn Hill Notch it grows on slope not so far below summit of ridge. Within 10 ft. grows E. fabacea. The former has 5 points or processes representing the anthers in the pistillate flower.

As I came along the crest trail between Snake and Thorn notches I saw a man down in the cañon gathering Trillium. I felt certain he was gathering Trillium and

I waited some time watching him comb the cañon. Finally, like a voice from the mountain tops, I called cheerily "How many you got"? He must have been surprised, for he could not see me. What? he answered. Trilliums, said I. "Oh, a good many". How many?". "Oh, a lot." Fifty or sixty?" "Oh, yes, more than that". "What will you do with them"? "Take them home". "What then?" "Put 'em in a vase", surprised. "Don't you think sixty is too much for one person to take"? "What?" "Just that. There won't be any Trilliums in the hills at all if you take that many. They will all disappear just as other rare flowers have". "Where are you?" "On the upper trail." "Wait a moment and I'll be up." He came up. Laid down his huge pile of Trillium and said inquiringly "You are a botanist"? Then I explained to him that when he pulled up the plant in that way he took

all its leaves. It has but 3 leaves. Its work is ended for that year." Well, he said, it is pure ignorance on my part. Just ignorance. I had no idea I was bringing about the extinction of the species. I love the hills. I love to hike in the hills and I looked upon the Trillium as just weeds" - His name is Frank Schaefer, Engineer Student at Stanford, - 473 Jean st, Oakland.

- Visited me today C. C. Marshall discoverer of Ribes marshallii and Saxifraga marshallii. He was in the schools of Humboldt Co., 1883-1895. Taught in High School Eureka, to which he gave his herb. of 700 spms. & his set of Botany of California on leaving for the East where he went into school-book publishing business. Has now returned to California. This summer goes back to Eureka to look over old

ground and will teach a little school in the mountains, just as he used to do in the summer time when the Eureka schools closed. In this way he was enabled to explore mountain country that he would not otherwise have seen. He collected Ribes Marshallii in Trinity County between Hupa and Ribes ~~marshallii~~ on Supply Creek below 500 ft. alt. - 16 Mar. 1921.

- In response to a question re. character of E. L. Greene I replied today: Yes, he was an egotist but his egotism was not offensive. Egotism anyway is to common to be disturbed about. Egotism runs into arrogance I suppose, and I suppose this worst offence was intolerance of independent opinions by his students regarding those particular hobbies, nomenclatorial especially, that he stood for. If not with him, you were against him and he ruled you out.

- Cont. p. 81. -

Guadalupe Mine Santa Cruz

c. 800 ft.

No. 9087. Tropidocarpum gracile Hook.

No. 9088. Ribes californicum H. & A.

Leaves small, a little glossy above.

No. 9089. Physanocarpus cuneipes Hook.

No. 9090. Lepidium nitidum Nutt.

No. 9091. Orthocarpus pusillus Nutt.

No. 9092. Viola pedunculata T. & G.

No. 9093. Rhamnus crocea Nutt. Typica C.B. Wolf

3 ft. h., diffuse. Apparently dioecious. Perianth parts and stamens 4.

No. 9094. Tonella tenella Heller.

Cor. 2-lipped, the lower lip consisting of one cupped lobe corresponding to the keel in Collinsia and an upper lip composed of 4 equal oblong lobes; the 2 lateral lobes of lower lip in Collinsia + the two upper lobes in that genus. Fils. somewhat inflated or rather thick-

ened upward, the upper 1/2 microscopically glandular-dotted, or rather with very short glandular processes, very short: looked spreading at superficially they pass for dots or globules. Lower pair of stamens inserted lower than the upper pair. Lateral lobes upper lip narrower than the middle-lobes *

No. 9095. Beanothus sorediatus H. & A.

No. 9096. Vicia americana Muhl. var. linearis Watson. Banner purple, the rest purplish + whitish.

No. 9097. Solanum umbelliferum Esch.

6 ft. h., showy.

No. 9098. Phacelia ciliata Benth. -

Low flat fields near Warm Springs, Alameda Co.

No. 9098a. Ptilostegia drymarioides

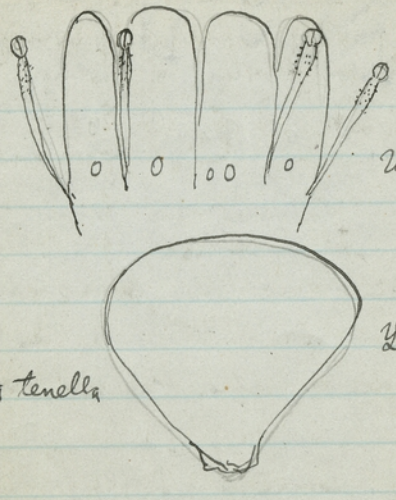
Guadalupe Mines.

* Corolla lavender, the upper lobes with a dot of purple at base. Lower lip nearly fan-shaped, only slightly cupped. The calyx-lobes are ciliate. Pistil glabrous. The cotyledons are larger than any leaves which follow. over

Guadalupe Mine, Mar. 20, 1921.

c. 800 ft.

Cont.



The corolla is cut more deeply betw. the fanshaped lobe and the other four than between the morphologically upper and lower lips! Gland on upper side of tube (vestige of fifth stamen).

No. 9098. Pterastegia drymarioides Fisch. & Mey. Stamens 5 (3 with large anthers, 2 with small), or 3.

[Cont. from p. 53. In other words I never felt quite certain whether it was the species or the man he was recognizing when he accepted a species.]

Cont. from p. 77. I myself did not suffer from this for the reason that I cared little for the theories which meant so much to him and I came to care less. But certain students came strongly under the ban — and various persons not students who did not agree with his species-making such as Parish, Purdy & others. But this mighty attitude was reserved for those whom he regarded as inferiors. He did not act so towards Sir Joseph Hooker and other prominent botanists.

— In response to a question today I replied: T. S. Brandegee is well educated being a Yale man. He is a rather quiet reserved man and has always deprecated Mrs. B's attacks on people, that is to Mrs. B. It would seem an unquiet life for him to be married to a woman like Mrs. B. But this is to be said.

Those who think of Mrs. B. as a coster-woman slinging caustic words with a hoarse chortle of glee should remember that this side, which seems so characteristic of her, was reserved for the persons she disliked. Towards Mr. B. she was devotion itself. She called him "Dolly" and concentrated on him an affection which was as steady as her attitude towards others was whimsical or erratic. Her hatred of Greene was purely expedient (this doubtless heightened by disappointment); when it became desirable to show her devotion to Setchell by hating me, she then readily went to Washington and sued Greene for peace. That was the time Greene smiled genially at her and said: "Well, you always were an old fool." During the

the key-day of her attacks upon Greene in 1893 I do not think he (Greene) cared a snap about them, rather took them in good humor; tho if he thought his students were influenced by them he did not like it. — Mar. 22, 1921.

See 51:163 infra.

No. 9099. Calochortus umbellatus Wood
Thousand Oaks, North Berkeley
19 Mar. Drawing made from this.

No. 9100. ~~Canothus cuneatus~~ Cercocarpus betuloides Nutt.
Santa Clara Co., Los Altos, hills back of
No. 9102. Ceanothus cuneatus Nutt. with no. 9100
No. 9103. Dentaria integrifolia Nutt. var. californica Jepson. = D. californica Nutt.
Shady creek bank. with 9100
No. 9104. Eriophyllum glabrum Nutt.
Open hillside. with 9100
Nos. 9100 to 9104, collected Mar. 27. Guest of H.A. Dutton at Los Altos.

Colma (cañon near), which is called Colma Cañon.

No. 9105. Urtica urens L.

No. 9106. Zillaea recta H.&A.

No. 9107. Salvia spathacea Greene.

No. 9108. Lupinus albifrons Bth.
Stems woody only at very base.

No. 9109. Sidalcea malvaeflora Gray.

No. 9110. Lathyrus vestitus ssp. bolanderi
(discarded, insect damaged)

No. 9111. Agoseris

No. 9112. Lasthenia minor

No. 9113. Baeria

No. 9114. Spergula arvensis

No. 9115. Fragaria chilonensis (L.) Dachn.

No. 9116. Ranunculus

No. 9117. Orthocarpus erianthus Bth. var. roseus Gray.
Cont. next page.

San Mateo Co
3 Apr. 1921.

- Trip with Cal. Bot. Soc. went down to Burlingame with the J.B. Smiths afterward to dinner. Grey Ray Smith is a cousin of Charles Dana Gibson, the artist.

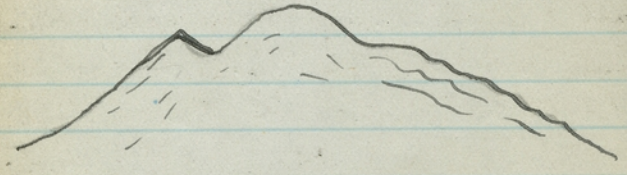
- Cont. no. 9117. Two somewhat tawny or yellow and densely hairy folds on front of partitions of sacs, i.e. facing upper lip. Upper pair of anthers blended or connivent; (i.e. longer) shorter pair distinct or connivent.

- Sequoia gigantea references: Kellogg, Trees Cal.; Gard. & For. 2:614; Trans. Bot. Soc. Edinb. 6:330; Lindley, Gard. Chron. 1853, p. 823; Kellogg & Behr, Proc. Cal. Acad. 1:51.

- Eastwood, A, Piper's relation to. See J.C. Nelson in litt. Apr. 5, 1921, an amusing comment.

Santa Barbara

— Took train for Santa Barbara to deliver a lecture in behalf of the Save the Redwoods League. The flowering did not seem as profuse as a year ago. There was however wonderful "gold dust" on the hills east of Gilroy Valley. Also on hills immediately south of San Francisco, on shoulders where soil is poor. All this color is probably Baeria. Opposite Metz, the eastern foothills of the Salinas Valley are as brown as ordinarily in June.



Chalone Peak

This peak is a great landmark a long way up the Salinas from Soledad. It is of marked outline because of its height and the very sharp peak on the left of the mt.

It is marked "Chalone" on U. S. Land Office maps + on map of Cal. State Min. Bureau. This would seem to be a dif. name from "Cholame" a valley & creek in so. Monterey Co.

Away to east of King City (the intervening hills are low) is a blue peak, far in, lying on top of a high range. This is prob. Mt. Hepsedam. Back of it is a high range with forest on the s. slope (= San Carlos Range?). Low rolling country in foreground.

Away to east of Santa Maria are big high mts = (Cuyama Range prob.). East of Santa Maria is a wide rolling plain or mesa for a long distance inland. A "Mt. Diablo-like" peak lies isolated on it far inland. Apparently a great gap eastward.

No. 9118. Ribes amarum McCl.
Bush 5 ft. h.

No. 9119. Solanum douglasii Dunal.
Santa Barbara.

No. 9120. Nemophila aurita Lindl.
Santa Barbara. The Spanish beauties used the flowers to decorate dresses at festivals, the leaves clinging to fabric by their hooked spines. This from Mrs. W. F. Kelly. = Ellisia aurita Tausch.

No. 9121. Lupinus latifolius Agardh.
Rattlesnake Canon.

No. 9122. Zygadenus fremontii Wats.
The look of this flower is different from the Berkeley plant; the glands are greener; possibly the per. segs. are more distinctly rolled. The inner segs. are narrow and more markedly clawed than the outer. The gland is represented by a transverse thickenings of the veins of the ↑row of

Santa Barbara Co

segs., that is the linear ridges. This gland does not run down on the claw in the manner of the northern form and it has no border or rim! Its leaves are quite narrow.
Sycamore Canon. = Var. inezianus Jepson N. Var.

No. 9123. Galium
Rattlesnake Canon.

No. 9124. Saxifraga californica Greene.
Rattlesnake Canon, shady moist South slope.

No. 9125. ~~Lithophragma~~ cymbalaria T. & G.
Petals entire or nearly so! With 9124.

No. 9126. Delphinium patens Benth ssp. hepaticoideum Ewan
with 9124.

No. 9127. Collinsia bicolor Benth.
Flowers pale. With 9124.

No. 9128. Salvia columbariae Bth.
Sycamore Canon.

No. 9129. Muhlenbergia microsperma (DC.) Kunth.
This grass common in colonies in the chaparral. Sycamore Canon.

Santa Ynez Mts.

No. 9130 Melica imperfecta Trin.

This grass not uncommon in small openings in the chaparral

No. 9131. Elisia Chrysanthemifolia Bth. = Encrypta chrysanthemifolia Greene.

Sycamore Cañon.

No. 9132. Oenothera micrantha Hornem. var. Hirtella Jepson. Sycamore Cañon. [= Var. jonesii Jepson.]

No. 9133. Mimulus brevipes Benth. Det: A.L.G.

Sycamore Cañon.

No. 9134. Marah Echinocystis macrocarpa Greene. Perianth clear white. Sycamore Cañon.

No. 9135. Cryptanthe muricata Nels. & Mac.

Sycamore Cañon.

No. 9136. Phacelia viscida Torr.

Sycamore Cañon

No. 9137. Ceanothus megacarpus Nutt. ~~macrocarpus~~ Nutt. 6-12 ft. h., common and forming pure colonies of a few to several acres on hill-slopes.

No. 9138. Arctostaphylos glandulosa Eastw. Habit, size, appearance, gregariousness, - in all these features it resembles

Santa Barbara Co.

the shrubs of Mt. Tamalpais, of this species. Its heavy root-crowns are quite like, too. Sycamore Cañon.

No. 9140. Pterostegia drymarioides F. & M. Sycamore Cañon.

No. 9141. Lotus grandiflorus Greene. Flr. a creamish white. Sycamore Cañon.

No. 9142. Melica imperfecta Trin. This grass not uncommon in shady spots in Sycamore Cañon.

No. 9143. Salvia spathacea Greene. Rattlesnake Cañon.

No. 9144. Dendromecon rigida Bth. Rattlesnake Cañon.

No. 9145. Ceanothus megacarpus ~~macrocarpus~~ Nutt. Very slender. Sycamore Cañon. = C. megacarpus Nutt.

No. 9146. Stachys bullata = S. californica Bth. Sycamore Cañon.

No. 9147. Marah Echinocystis macrocarpa Greene. Common, Sycamore Cañon.

Santa Barbara Co.

No. 9148. Convolvulus cyclostegius House.
Climbing high on shrubs, even up to 12 or 15 feet and flowering profusely in their tops. Sycamore Cañon.

L. vestitus ssp. puberulus

No. 9149. Lathyrus bolanderi Wats. var. violaceus Jepson. Cont. p. 93. Sycamore Cañon.

No. 9150. Salvia mellifera Jepson.
Sycamore Cañon.

No. 9151. Solanum xanti Gray.
Cor. royal purple!

No. 9152. Baeria
Santa Barbara.

No. 9153. Cryptantha intermedia Greene. Santa Barbara.

No. 9154. Ceanothus spinosus Mitt.
Leafy branchlets spine-tipped; shrubs commonly but not always 6-12 ft. h. Leaves glossy, especially above, sufficiently fleshy to be brittle when bent flat. Leaves all small, oblong, quite uniform in size. Further

up I find many individuals that are tree-like with a trunk 5 in. in diam., up to 16 ft. h. About 2 mi. up trail, Sycamore Cañon, in a cañon bottom I find trees 24 ft. h!!
Cont. below on this page.

- Lathyrus, no. 9149, cont. Banner pink, aging purplish, somewhat obliquely placed towards the base. Banner broad. Wings narrow, attached by ears very firmly to the keel.

- Ceanothus spinosus, no. 9154, cont. Branchlets yellowish; bark of main branches yellow-greenish, very smooth. There was a great deal of this and I had my fill of looking at it — the first time that I had seen it in flower at its type locality. [It is now disconcerting to find I took only 4 sheets of it!.]

No. 9155. ~~Brodiaea capitata~~ Dichelostemma multiflorum (Bth.) Heller
Santa Barbara.

No. 9156. Microseris linearifolia
Santa Barbara.

Santa Ynez Mts

Santa Barbara

No. 9157. ~~Gilia~~ (Leptodactylon) californicum Benth. Cor. lobes cuneatish-oboval, abruptly short-pointed, equaling tube in length. Stamens with very short fils. inserted in upper part of tube, included. Calyx-teeth nearly ½ length of tube of calyx, equaling cor.-tube. Calyx variable in length, sometimes only ⅔ length cor. tube. Cor. pink, running towards a Godetia shade. Plants ½ to 1 or 2 ft. h. Near Santa Barbara.

No. 9158. Palonia brownii Dougl. Common near Santa Barbara.

No. 9159. Venegasia

This composite common in the canons but early for it. Santa Barbara.

No. 9160. Oenothera micrantha Hornem. Sycamore Canon.

No. 9161. Oxalis corniculata L. Sycamore Canon.

No. 9162. Prunus ilicifolia Walp. Common in the chaparral near Santa Barbara.

No. 9163. Apiastrum angustifolium Nutt. Sycamore Canon.

No. 9164. Clematis

Sycamore Canon.

No. 9165. Ribes malvaceum Sm. Berries ripe, red. Santa Barbara.

The chaparral at the forks of the trail at the head of Sycamore Canon consists of:

Ceanothus spinosus Nutt.
" cuneatus Nutt.
Arctostaphylos glandulosa Eastw.
Adenostoma fasciculatum H. & A.
Heteromeles arbutifolia Roem.
Dendromecon rigida Benth.

I returned to Santa Barbara by way of Rattlesnake Canon.

- Orthocarpus purpurascens the most common flowering annual at this time. It colored fields in a striking way about Mekz and Templeton. Also in region of San Luis Obispo.

- Coming north I noticed that the Santa Inez Mts., now becoming lower and lower, were, just before Arlight [sta. = (? Arlight)] covered with exclusive colonies of a blush-looking bush, i.e. the vegetative body is blush. Some of the bushes were marked arborescent on a small scale. As the track neared the colonies I thought it might be some Salix bush and then I decided it was Lupinus. At any rate it was heavily floriferous with spikes. I wish such colonies might be mapped — where the species reach the optimums in their range and form

pure stands.

- Ericameria sp. forming the dominant in an association on the sand flat plateau at Tangair. Mixed with it a Ceanothus now in flower (blue). This spot looks like alluring botanizing. It is near the n. boundary of Santa Barbara Co., i.e. a little way beyond Surf.

- History of California Botanical Exploration. Cf. the following: "Map of the United States Territory of Oregon west of the Rocky Mountains, exhibiting the various trading depots or ports occupied by the British Hudson Bay Company. By W. Hood. 22×18. 1838."*

- John Muir, collected a little in early days. A very small plant of the alpine Potentilla flabellifolia is in Herb. J. H. Redfield. Alpine in the Sierra Nevada.

* See bottom p. 107.

No. 9166. Sisyrinchium bellum Wats May 7, 1921

No. 9167. Sherardia arvensis L.

Street parking at 2714 Benvenue ave. May 4, 1921.

— Cal. Bot. Collectors. cf. Thayer. Wild Flrs. Pacific Coast (1887).

— Water-finders. Cf. Prosopis in Encycl. Britan.

— Cal. Botanical Collectors. Some information regarding the collectors on the Pacific Railroad Surveys, who were all M.Ds, may be had from the Cyclopaedia of American Medical Biography 1912 by H.A. Kelly, 1406 Eutaw Place, Baltimore, Md. Also American Medical Biography (1919), with W.L. Burrage.

— Preserving Plant Specimens. Cf. Bot. Gaz. 24:225.

— Styrax californica. Chaparral Shrub in n. Sierra foothills, says Dr. , where it is called Bitter-brush.

100 ft.

— Drove to Petrified Forest. In the company were Professor Margaret Ferguson of Wellesley College, Miss Alice Ottley, Miss L.M. Newton, my research assistant, and Miss Lucille Roush, assistant in the Freshman Laboratory, besides myself.

No. 9168. Mimulus nasutus Greene. Det: A.L.G. Stream bed. This species shows great variation in size of corolla and shape of leaf, even on one individual. The following are further variants. = M. guttatus var. arvensis (Greene). — Det. W.R.G. —

No. 9169. Mimulus nasutus Greene. Det: A.L.G. This had smaller corollas, a larger purple blotch on lower lip, the leaves markedly joined at base (pairs of one plant, the branches on one sheet all cut from base of main plant on other sheet.

No. 9170. Mimulus guttatus DC. approaching var. arvensis (Greene.) Gray. Det: A.L.G. Leaves very fleshy.

Calistoga, 359 ft.

No. 9171. Mimulus guttatus DC. var. arvensis (Greene) Grant. Det: A.L.G. Two sheets – all one plant. Yountville

No. 9172. Mimulus nasutus Greene. Det: A.L.G.
This has the corollas of 9169 but its leaves are petioled. Yountville.

No. 9173. Mimulus nasutus Greene Det: A.L.G. approaching M. guttatus var. arvensis nos 9171-3 = Yountville

No. 9174. Lasthenia glaberrima DC.
Wet flat. Heads nodding after anthesis! Rays 1/2 to 3/4 line long, pale yellow.

No. 9175. Floerkea douglasii (R. Br.) Dall. Cor. white.

No. 9176. Ranunculus orthorhynchus Hook. var. platyphyllus Gray.
Wet flats – winter pools.

No. 9177. Trifolium variegatum Nutt.
Wet flat. Cor. purple with white tips.

No. 9178. ~~Stellaria~~ Cerastium viscosum L.

No. 9179. Montia fontana L.
Ovary obovoid; stigmas 3, nearly distinct on summit of ovary

No. 9180. Ranunculus pusillus Poir.
Wet flats, former winter pools. *

No. 9181. Alopecurus saccatus Vasey
This grass grew in a wet flat.

No. 9182. Pleuropogon californicus (Nees) Benth.
This grass grew with 9181.

No. 9183. Trifolium tridentatum Lindl.
Wet flat.

The valley of Napa is very beautiful today as always. Mt. St. Helena's massive front towers strongly to the north and dominates the valley. We stop to botanize about one mile short of Calistoga.

---

* Petals pale yellow, very narrow, scarcely 1 line long.

Porter Creek, E. Sonoma Co.

c. 1200 ft.

No. 9184. Trifolium ciliatum Nutt. = T. ciliolatum Benth.

Summit of grade, Calistoga to Porter Creek. c. 1500 ft.

No. 9185. Hieracium albiflorum with 9184.

No. 9186. Orthocarpus faucibarbatus Gray. Moist mdw.

No. 9187. Floerkea douglasii Baill. Moist meadow.

No. 9188. Orthocarpus attenuatus Gray. Moist flat.

— We climb westerly following a stream and then the grade on a ridge side to the summit of the range where we lunch. This is a little pass in the hills, the Douglas Fir being common. We run down hill to a little valley just east of Porter Creek School and stop to botanize in a meadow. It is gay with Meadow Foam and Orthocarpus faucibarbatus.

May 6. 1921.

Sonoma Valley, 100 ft.

No. 9189. Downingia concolor Greene. Mud bed of winter pool.

No. 9190. Allium amplectens Torr. This is likely near the spot where Bigelow collected it.

No. 9191. Sidalcea malvaeflora Gray. ♂ plants.

No. 9192. Sidalcea malvaeflora Gray. ♀ plants.

No. 9193. Gratiola ebracteata Bth. Mud beds of winter pools.

No. 9194. Downingia humilis Greene. Mud beds of winter pools, in company with 9189.

No. 9195. Bellardia trixago All. Near but west of Napa

— In Sonoma valley not far from Agua Caliente an oak tree (Quercus lobata) had just been felled. It was 4 ft. diam. at 2 ft. and the counts of four of us varied from 149 to 152 rings.

Berkeley, May 10.

√No. 9196. Malva borealis Wallm. = M. nicaeensis All.

– called last night at the Parish's to meet Edmund C. Jaeger, the young naturalist of Palm Springs. He is a clean good-looking type and very interesting. He says there are about 100 Washingtonia filifera in Deep Canon, San Jacinto Range; about 22 in Eagle Canon just east of Palm Springs; and about 100. 4 mi. easterly from Cottonwood Springs in a canon. He says there are none in Red Canon, Chuckawalla Mts. as reported second-hand by Parish, or at least he is very skeptical. He says Mary F. Spencer lived 40 years in Munich until driven out by the war. During that period she collected in many countries and claimed to have all British plants but six. She is very vigorous, tho

over 80, gets up at 5 o'clock as a rule, makes 15 specimens of each species collected, 5 going to Oberlin her old college, 5 to Harvard, 5 to Munich. She has no teeth now but an ostrich-like digestion and goes in for doughnuts on her trips. She made a trip in a severe windstorm thru the desert from Barstow to Copper City with Jaeger about ten days ago. cf. 36:152 supra.

√No. 9197. Ranunculus repens L.

Lawn at 2714 Benvenue ave.

– J.P. Tracy just called: He says: "C.C. Marshall is teaching this summer at Martins Ferry on the Klamath below Hupa. I have had some difficulty with Hitchcock's Grasses. I do not find his keys as easy to work with as yours. He makes more species and

they are not as clearly differentiated as it seems to me they might be. Then I send grasses to him for det. and will get the same plant back successively under different names. Of course I realize he doesn't make all the dets. himself but only passes on them in a general way. Arctostaphylos tomentosa* does not crown-sprout so far as I know. The Eureka Trail of Bolander is probably from Long Valley to Cummings and along the ridge to Harris, etc.

I took Tracy to dinner (noon) at the Faculty Club. The Halls came in and I moved up a table so they could sit with us: Tracy said: "The grasses are not so difficult I think. If you get past the technicalities, you are all right. At first they scare me, but when the special terminology and structure is understood you can go ahead." Said Hall: You mean that the grasses would be all right but for the agrostologists?" We all laughed and Tracy said "Yes, that's it. It's their special terms that confuse. Just like Compositae!" Then we all laughed again, including Hall the specialist on Compositae.

Tracy spoke of one Stipa which he had received back from Hitchcock under three names (at different times): S. vaseyi, S. lemmoni, & S. [letterman], 3-closely allied species.

* = A. columbiana.

– Cont. from p. 97. This note on the Oregon map is taken from Cat. No. 46, Burnham Antique Bookstore, of Boston. Priced at $35.00. on p. 24. –1923–

- C.V. Piper was here Tuesday, May 17. The Parishes had him to dinner and several others. Piper said, a bit to my surprise, that he could work under any nomenclatorial code. He said further: "Coville has antagonized almost every botanist in Washington by his extreme attitude on the Am. code. He is married to a code, and when you criticize the code you insult his wife. Scouler's journal has been published and I induced the Hakt. Soc. to republish the Douglas journal in its original form which is very dif. from the Hooker publication. Douglas' estimates of distance are very inaccurate - always too high or too low. Douglas had a tendency to draw the long bow, as witness his account of the volcano in the Sandwich Islands."

I apologized for Douglas, saying the country was very difficult, that it had never been traversed in some cases, that where the problem of food is before you and the greater problem of escaping attack of Indians is always before you - then a given distance may seem very far or very short, according to circumstances. As to the volcano I think a European, seeing a volcano for the first time, might have been pardoned for recording a vivid account of the shaking of the earth that seems so solid to a dweller in the British isles. At any rate it seemed to me Piper was "posing" a little, being a little clever; the very smart and superior person likes to plume himself on his iconoclasm.

Mt. Diablo summit = 3849 ft.

No. 9198. Allium serratum

Ovary crests central, small, 2-lobed. They are not "minute" as said in my Fl. bal. They are really of good size for the size of the ovary. Inner segs. little more than half as broad as the other.

No. 9199. Brassica nigra Koch.

Very rank along the roadway grade to summit of Mt. Diablo ½ way up, in all sunny open places where the ground has been broken. 3 or 5 to 7 ft. h!

No. 9200 Senecio vulgaris L.

On a "burn" ⅔ the way up

No. 9201. Senecio sylvaticus L.

with 9200.

No. 9202. Mentzelia dispersa Wats.

Stamens 17; petals elliptic-oblong, 2¼ lines long, golden yellow with an orange spot at base.

May 22, 1921.

No. 9203. ~~Stenotus~~ Haplopappus linearifolius DC. ~~Jig.~~

Rays 14, 14, 11, 14, 9, 12,

The bushes are quite low, probably never more than 10 to 14 in. h. and ⅓ again as broad. It is common on all the summit portion of the mountain.

(Discarded, insect damaged)

No. 9204. Helianthella castanea Greene

Very summit, borders of chaparral.

No. 9205. Emmenanthe penduliflora Bth.

On a "burn". See also p. 114.

No. 9206. Lewisia rediviva Pursh.

Gentle rocky slope (moist fine or gravelly rock), a few feet below summit on north side.

Fl. no.	Sepals.	Petals.	Stamens.	Styles.
1.	7	15	41	7
2.	7	14	43	7
3.	9	17	42	7
4.	7	15	43	5

Mt. Diablo

These plants grew on a little sloping sil-gravel flat, barren of other vegetation, and the flowers opened out onto the surface of this little flat like small sun-bursts. The place was made entrancing by them!

No. 9207. Sanicula saxatalis Greene.
Fls. somewhat straw-color (=dull very pale yellow). Odor very strong (or rather) intense, and penetrating. Summit of the mountain, only 2 plants seen.

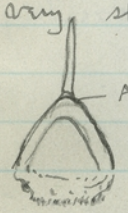
No. 9208. Crepis Agoseris retrorsa
Summit. Only a few plants seen.

No. 9209. Hydrophyllum occidentale Gray. Summit; shade of bushes on north side.

No. 9210. Senecio aronicoides DC var. exultatus (Nutt.) Crong.
Summit, n. slope.

No. 9211. Arenaria douglasii Fenzl.
Summit, north slope.

No. 9212. Allium Breweri Wats.
Crest a continous curve with a very short blunt(ish) free apex



Ovary, one lobe, showing its curved crest. The very tip is free (as at A), the style passing down behind it. The perianth segs. are finely, or rather minutely, but beautifully denticulate!

No. 9213. Cirsium coultari Harv. & Gray
Common midway on mountain, open slopes. Lavender heads!
3-4 ft. h.

No. 9214. Lupinus ~~microcarpus Sims.~~ pubescens C.P. Sm.
In a diminutive hollow, doubt-

less a little landslip aforetime, half-way up the mt. Upper calyx lip acute, very shortly cleft; lower lip obtuse, very shortly cleft; Keel ciliolate below; flowers blue; center of banner whitish, dotted. No purple, even in age!

✓No. 9215. Microseris heterocarpa (Nutt.) K. Chambers
Half-way up.

✓No. 9216. Calochortus luteus Dougl.
No eye-spot. Petals with a transverse flare of pencilings above the gland.

✓No. 9217. Scutellaria tuberosa Bth.
Tubers very white, abundant! Shady margins of chaparral. Common.

— Teratology, no. 9205.
Emmenanthe.
One flower { Cor. parts 6!
Sepals 6!
Stamens 5!
Style-branches 2!

✓No. 9218. Fritillaria /
Woods, half-way up.

✓No. 9219. Thelypodium laxiophyllum Greene.
This crucifer grew on a burn about 1/4 way down the mt. from the summit. It was 3 1/2 ft. tall. Bushy-branched from base but very erect! See no. 9225.

— Dr. A. M. Ottley, my grad. student, brought in Lotus major from the garden in flower today. It looks for all the world of Loti like the Californian species — say Lotus subpinnatus or Lotus rigidus. It has minute gland-like stipules — but these have form and are not mere dots. — July 12, 1921.

— Calif. Bot. Explor. C. Tuckermann. Lichens of Cal., Ore., & Rocky Mts., Amherst, 1866. Taken from Stecher's Cat. 40 (1921).

— Calif. Bot. Exploration. Cf. Lesquereux, L., On Californian Mosses. Phila. 1863. Cat. of Mosses found on the Northwest Coast of the U. S. and especially in Calif. S. F. 1868. 38 pp.

No. 9220-9222. not used.

Berkeley, June 1921.

– H.M. Hall says: – "Miss Alice Eastwood is trying to build up a large collection at the academy without much regard to quality. She goes out and collects and says she must get everything. Well, you know how she is. She pulls off a flower here, grabs a branch there and gets a lot of stuff, a great deal of it incomplete and all of it practically without data." – June 10, 1921.

Mrs. Brandegee's stuff suffers from lack of data but in her later years, say the last 15 years, she has surpassed all other collectors in making fine sheets of plants of special interest. I have now before me her Argemone corymbosa Greene, from Yelzo, Mohave Desert. Two splendid sheets showing leaf and flower variation

Head of South Mill Creek, Ukiah, May 29, 1921.
ascending c. 1500 ft.

"Burn" Plants. = Marked *

No. 9223.* Streptanthus glandulosus. About one-half the plant taken

No. 9224.* Calandrinia Breweri. Stamens 6; pets. smaller than in C. menziesii.

No. 9225.* Thelypodium laciophyllum Greene. This crucifer 3 to 5 ft. h., very luxuriant on the burns. Stem quite simple or branching above. Flowers white. The single leaves of specimen sheets are from lower portion of plant. Very erect! See no. 9219.

No. 9226.* Senecio aronicoides DC.

No. 9227.* Collinsia bicolor Benth.

No. 9228.* Nemophila exilis Eastw. See p. 117. Flowers white, showy for the small flowered section. Filaments with a pair of narrow somewhat diverging. plates arising from the base of the filaments, one from each side. Anthers black or nearly so. Ovary upwardly long-hairy. Cor.-lobes shallowly retuse or emarginate.

No. 9229. Helianthella (Discarded, insect damaged) Rays 13, 15, 15, 19.

116b. Head of South Mill Creek, 29 May 1921. c. 1500 ft. Ukiah.

mendocino Co. "Burn" Plants. = Marked *

No. 9230* Madia gracilis (Smith) Keck ssp. gracilis

No. 9231* Lotus humistratus Greene.

No. 9232* Gilia capitata ~~Dougl.~~ Sims ssp. capitata
Fls. white, drying lavender. See p. 120b.

No. 9233* Lupinus nanus Dougl. var. apricus C. P. Sm.

No. 9234* Cryptanthe torreyana Greene.

No. 9235* Madia exigua (Smith) Gray

No. 9236. Ceanothus integerrimus var. californicus (Kell.) Benson H.&A.
Flowers blue!

No. 9237. Orobanche
Cor. purple. Flowers solitary on the "peduncles". Folds of palate narrow, convergent in such a way, that is approximate by their edges, so as to make a "tunnel" or passage down throat of corolla. These palatal folds are yellow.
There was also collected one white-flowered plant! Its cor. is quite like the purple-flowered one in

Forty Dollar Mt., 31 May 1921. c. 3600 ft. 116c.

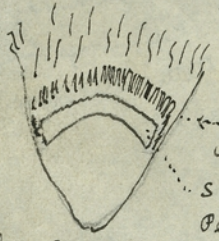
mendocino Co. "Burn Plants" = Marked *.

structure and detail of markings. It is smaller than the largest of the purple ones, but as large as the smaller ones.

No. 9238* Navarretia mellita Greene
See p. 118d.

No. 9239. Arctostaphylos stanfordiana Parry.
Berries depressed globose and unsymmetrical!

No. 9240. Calochortus ~~coeruleus (Kell.) Wats.~~ tolmiei H.&A. ~~maweanus~~
Petal: upper half white hairs, lower half purplish hairs; naked below gland.



A distinct row of somewhat united hairs above the scale.
Scale. The scale is single.
Pets. nearly white.

No. 9241. Pedicularis densiflora Bth.

No. 9242. Ceanothus foliosus Parry.
Pale blue fls.

No. 9243* Senecio aronicoides Discarded - WRH Insect damaged.

No. 9244. Adenostoma fasciculatum H.&A.
Seedlings in burn.

No. 9245. Juncus bolanderi Engelm. (det. P. Rubtzoff. Jan '72)
Forty Dollar Spring.

Head of South Mill Creek, Ukiah.

Mendocino Co. "Burn" Plants = * c. 1500 ft.

No. 9246. Arctostaphylos canescens Eastw. = A. glandulosa Eastw.

No. 9247. Ceanothus integerrimus H. & A. var. californicus (Kell.) Benson

Fls. white!

No. 9248.* Calochortus ~~pulchellus Dougl.~~ amabilis Purdy

In chaparral at 2600 ft.! See p. 118d.

No. 9249.* Lupinus

No. 9250. L. vestitus ssp. puberulus

Lathyrus bolanderi Wats. var. violaceus Jepson.

Banner white, faintly pink-tinged, veined lightly in center with purple. Keel & wings white. Keel glabrous. Upper calyx teeth short, approximate curving; lower lanceolate.

No. 9251.* Nemacladus

See p. 118e.

No. 9252.* Oenothera hirtella Greene = O. micrantha Hornem. var. jonesii Jepson. See p. 118d.

No. 9253.* Malacothrix floccifera

Ligules clear white. On sandstone outcrops.

No. 9254.* Astragalus nigrescens Nutt. = A. gambelianus Sheld. See p. 120b.

No. 9255.* Githopsis

No. 9256.* Festuca reflexa Buckl.

This grass grew in thin chaparral

No. 9257. Pentstemon heterophyllus Lindl.

See p. 120a. See p. 120c. cf. no. 9315.

June 1, 1921. Mendocino Co.

"Burn" Plants = *

No. 9258. Prunus virginiana L. var. demissa Torr.

Plants slender, 20 to 24 ft. h!, branched mostly above and quite strictly, thus forming a small narrow-crowned tree. This form assumes this habit in the open says Purdy and is not the result of crowding. He says it has black fruit. Bark dull grey or dark grey. Bark of Sierran form bluish cast, the plant always a spreading bush however large. See p. 116h.

No. 9259.* Emmenanthe penduliflora Bth.

No. 9260.* Scutellaria tuberosa Torr.

No. 9261.* Festuca octoflora Walt.

(det. Beecher Crampton, July 1972)

This grass grew in the "burn".

No. 9262.* Filago californica Nutt.

No. 9263. Phacelia

No. 9264. Trientalis ~~europaea L.~~ latifolia ~~Torr.~~ Hook.

No. 9265. Viola ~~purpurea Kell.~~ quercetorum B. & Cl.

wooded vale.

No. 9266. Mimulus subuniflorus Jepson.

With 9265. M. douglasii Gray.

Head of South Mill Creek, Ukiah.
c. 1500 ft.

No. 9167. Linanthus bicolor.
~~Gilia achilleaefolia (Greene)~~
Cor. golden. with 9165.

No. 9168. Pentstemon Lemmoni
Seedlings. See p. 120a.

– The "burn" plants marked above as *, are those which appear in great numbers after a burn or those whose conditions of existence are improved by a burn.

No. 9169. Phacelia
Calyx-lobes unequal, glandular-hispid above and also bristly hispid. Cor. with transversely broadened roundish lobes with crenulate margins. Stamens included; anthers slate-colored; filaments covered half-way up by narrow scales without amplified tips or only slightly undulate, the tips not at all frel. Cor. very small, little exceeding calyx, very pale lavender. On a local burn on flat, upper South Mill Creek, cf. no. 9274.

No. 9170. Boisduvalia
Petals pink, narrow-obovate, cleft 2/3 way down. Flat, upper South Mill Creek.

7 June 1921.

– Lilium Bolanderi Wats. This species says Purdy was really based upon a specimen by Howell from sw. Ore.; Watson, when the Howell spec. came in, taking it to be the same as sent in previously by Bolander which it was not. It is small-flowered, hardly larger than Fritillaria recurva and has obovate leaves. The real Bolander plant is Lilium Kelloggii Purdy which has closely recurving flowers.

– Altitudes. (Carl Purdy gives these figures from memory.—

Lake Flat, head of Mill Creek,	4 1300 ft.
Terraces	2600 ft.
Forty Dollar Mt.,	3600 ft.
Snow Mt.	7000 ft.
Sanhedrin	6000 ft.

K.
S.

– Brodiaea californica

Purdy says he knows this well. It grows on the red uplands east of Chico. If I remember rightly he spoke of it as much larger than grandiflora. He says that when the Chico plant first became known it was published as Brodiaea austinae. [On returning to Berkeley I find not B. austinae in the books or new Index.]

– Fritillaria eximia Greene is common on Cobb Mt. F. pluriflora is common in the adobe of Bear Valley, w. Colusa Co.

– Prunus demissa. There is a slender and tall Mt. small tree here at The Terraces 20 to 24 ft. h. It is not spreading. It is erect, not because crowded, because it grows in the open. It is, says Purdy, different from the spread-

ing bush of the Sierran Transition or Canadian zone chaparral, with which I agree. The Sierran form may become very large and really quite arboreous in bottoms – but it is after all a large spreading bush or shrub. It is red-fruited. Purdy says the form here is black-fruited. It has a dark-grey bark. The Sierran bush has bark of a bluish cast – says Purdy. I have noted and recorded very large individuals of this Coast-Range form in Mendocino Co., Ukiah, Jackson Valley, and marveled at its height and slenderness. See No. 9258

– Nemophila heterophylla F. & M.

Cont. from p. 116a, no. 9228. This determination is used in Bl. Cal.

South Mill Creek, Ukiah.

– Mill Creek Canon. The following were noted: Aesculus californica Vitis californica ; Heracleum lanatum

– Black Rock is a very small but conspicuous rock on the very crest of the ridge, 1 mi. north of Forty Dollar Mt. 2f is a long even ridge and the rock shows up well from the Ukiah Valley floor like a wart. The ridge is known as Black Rock Ridge, and the whole range might be called the Black Rock Range. Black Rock is well-known to people in the valley of Ukiah. See p. 120a.

– One should take a photo of the Live Oak on the hillside, a fine rounded dimpled crown, – one tree, just before one gets to Live Creek; and the fine cluster of Redwood between McDonald fork to Yokville and Alder Glen School.

– This trip taken with the California Botanical Society to Carl Purdy's place in the range east of Ukiah. The party camped in the little flat as take trd about 1 3/8 miles below The Terraces. The flat has scattered Fraxinus oregana, with the canon walls rising rather abruptly from the floor. The lower walls are finely wooded with Quercus chrysolepis, Arbutus menziesii, Pseudotsuga taxifolia, Umbellularia californica, Cercis occidentalis and a tree or two of Quercus kelloggii and a fine tall white trunk of Q. garryana at head of the flat.

The manner in which the Maul Oak overhung the floor, its great crown leaning out a bit, was entrancing. The Madrones are in flower and at the head of the vale a tall white trunk of Quercus chrysolepis centered the eye's attention.

South Mill Creek, Likiah

The way in which to get ahead with a problem is to jump into it, go ahead with it and get your bearings. After you get your bearings then you can perfect your organization to take care of it. To have an organization ahead of doing something is to get nowhere. Organization without action accomplishes nothing. The above is my theory of work and it interested me to find that it is essentially Purdy's too. The way in which I got the flora of California started was to start it. I am certain that no one will notice the difference between the part published before and after the

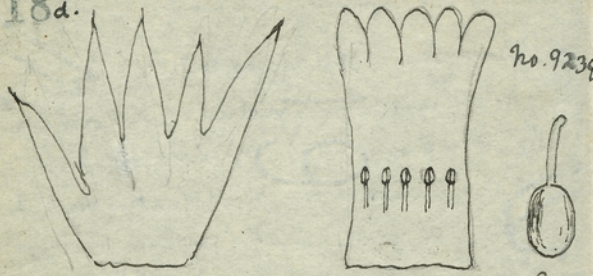
[Cont. p. 1189].

– Quercus chrysolepis

A fine individual known as the Hudson Oak grows in Mill Creek canon on northerly wall but only a few feet above the canon floor (say 30 feet). It tends outward and its axis therefore crown tends to be nearly perpendicular to the canon wall. It is 18 ft. 4 in. circ. at 4 ft. from ground on upper side and 6 ft. on lower side. It is heavily buttressed at ground and the extremes of its buttresses show a circ. of 29 ft. 8 in. Its crown spread is 64 feet and it is 65 ft. high through the main axis of the crown. The tree is beyond the second gate going up the canon, about 500 feet beyond.

Head of South Mill Creek, Ukiah.

118d.



Calyx. Corolla. Pistil.

Digrams of flower parts.

No. 9238. Navarretia

Cor. pale pale blue or dull white. See p. 116.

No. 9223. Streptanthus

See p. 116a. Upper pair stamens, i.e. on upper side, completely united! Limb of petals purple with white crinkly border, narrower than broadest part of claw (i.e. upper middle portion.

No. 9248. Calochortus pulchellus Dougl. Petals with only a few glandular hairs and there bordering glands on the side. See p. 116d.

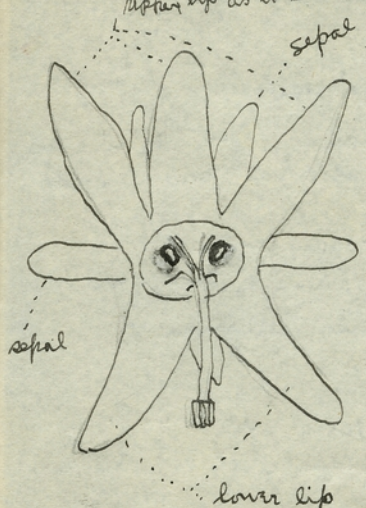
No. 9252. Oenothera

Pets. elliptic-obovate, 2 lines long. Stamens half length yellow pets. Stigma large globular. See p. 116d.

May 30, 1921.

See p. 116d. 118e

Diagram of Hemizonia no. 9251.



The corolla so stands that the upper lip is composed of 3 lobes. On the upper side the ovary (more nearly approximate in pairs than represented in diagram). Two glands on

Two of the filaments lie diverging between them; the other 3 fils. are as seem the approximate on opposite side. The stamen column is declined on lower side of flower. The two lower lobes are diverging; the upper 3 nearly parallel. The lobes are essentially alike in size and shape. Perhaps the pedicels twist to bring the flower so, but it is not detectable in the field by casual observation.

Head of South Mill Creek, Ukiah
Mendocino Co. c. 1500 ft.

No. 9271. Psilocarphus tenellus Nutt. var. tenellus

This graphaloid plant carpeted small "burns" in the flat at head of South Mill Creek.

No. 9272. Gnaphalium palustre
Old lake bed, head of South Mill Creek.

No. 9273. Veronica peregrina L.
Old lake bed.

No. 9274. Phacelia rattanii Gray.*
On small "burn" with 9171. See p.

No. 9275. Boisduvalia stricta (A. Gray) Greene.
with 9172. See p. 118. Dupl. 9270.

No. 9276. Trifolium ciliatum Nutt. = T. ciliolatum Benth.

No. 9277. Stipa pulchra Hitchc.

This grass grew on the openly wooded mesa by Ukiah town.

* cf. no. 9269.

[Cont. from p. 118c.

organization was well established. Moreover the organization becomes more and more perfected as I proceed.

By going ahead your organization is devised to suit the needs of your work and the reverse. Those persons who love to talk about proceeding on definite lines spend all their time in talk. Moreover their preconceived organization kills all real accomplishment because it tries to force things in a certain way which in all likelihood is not the right way.

- Carl Purdy says: Camassia esculenta and C. leichtlinii commonly grow together. There is a great Camassia swamp at Hilitō (Little Lake valley). The former has straw-colored bulbs, the latter inky-black ones.

Carl Purdy says. — Calochortus vestæ reproduces by bulblets produced on the stem above the corm but below the ground. These send down sinkers at an angle and form bulblets at the end. The bulb stem is annual and so these bulblets are all freed or individualized at the end of the season. These continue to lower their depth until they reach the proper level. All Calochortus bulbs bury themselves or raise themselves in this way.

If you start with an Umbellularia seedling ½ inch thick, count 13 or 14 years as a fire interval, count ½ inch as the amount of annual increment to the circle, then a circle such as I have on my place should be 4000 yrs. old.

No. 9278. Navarretia tagetina Greene. Dry valley flats.

No. 9279. Berberis prostrata R. Br. Perennial; erect. Dry valley flats.

No. 9280. Calochortus luteus Dougl. See p. 123. With purple eye-spot: with 9279.

No. 9281. Calochortus luteus Dougl. White flowers; purple eye-spot bordered by yellow. — These two, 9280 and 9281, grew on a dry valley flat, intermixed in hundreds, the white form being the more abundant. The two were alike in every particular, differing only in color marking.

No. 9282. Trifolium tridentatum Lindl. Swampy spot. See 35:65.

No. 9283. Lythrum hyssopifolia L. Swampy spot.

No. 9284. Hypochoeris glabra Valley flats, abundant.

No. 9285. Mimulus guttatus DC. var. arvensis (Greene) Grant. See p. 120e. Det. A.L.G. Swampy spots, abundant.

Hopland, June 2, 1921
Mendocino Co.
c. 580 ft. alt.

No. 9286. Sidalcea diplosacypha Gray.
Common in colonies; Ukiah Valley.

No. 9287. Daucus pusillus Michx.
Hopland Valley.

No. 9288. Lupinus formosus Greene.
Hopland Valley

No. 9289. ~~Horkelia~~ Potentilla californica Greene. (cf. 5).
Swampy spot at foot of hill.

No. 9290. Geranium dissectum L.
With 9289.

No. 9291. Trifolium obtusiflorum Hook.
Slope, wet seepage, above Rice Creek. cf. p. 124.

No. 9292. Festuca reflexa Buckl.
This grass grew with 9291.

No. 9293. Clarkia concinna Greene.
Alder Glen School; always on shifting soil, fine loose slides, of slopes.

No. 9294. ~~Montia~~ Claytonia spathulata Dougl. s.l.
Alder Glen School. See p. 171.

Forty-Dollar Mt., May 31, 1921.
cf. p. 118 ante.

Mr. Purdy and I climbed Forty-Dollar Mt. in Lake Co. this afternoon. We noticed a plenty of Pentstemon Lemmoni seedlings * on broken ground. There are some things which appear very promptly on disturbed ground or after burns. Arctostaphylus species develop seedlings on "burns" but also freely on cleared slopes where the sun gets in and has a chance to affect the seeds. Of course after a burn or after a clearing the numerous appearance of seedlings represents not one years crop of seeds but maybe twenty or possibly fifty since the vitality of such seeds is very long-persistent. The Pentstemon (no. 9257), which I would have called P. heterophyllus, sets seedlings very freely, says Purdy, on the edges of burns in or near chaparral or chemise. Broken soil is one thing. Freezing soil is another. North slopes are often empirin for that reason for chaparral. We noticed numerous Adenostoma fasciculatum seedlings on the burns. This species re-

* no. 9268

generates here freely as elsewhere, often crown-sprouting in distinct circles.

One of the most abundant annuals over all this country (on the burns) at this time is Gilia capitata (No. 9232) Malacothrix (No. 9253) occurs in spots and is certainly very pretty. It grows on gritty shoulders and is very floriferous; but becomes very "weedy in good soil says Purdy. I noticed some small thickets of Torreya on north slope near the summit. The plants were only 4 or 5 ft. h. apparently and had been fire-killed as to their branches and tip of axis, or sometimes to the ground. They are now crown-sprouting and in some cases regenerating along their axes up to 3 ft.

The real Arctostaphylos nummularia on the Mendocino "White Plains" produces seedlings freely after fire says Purdy. These seedlings, he says, flowers the second year.

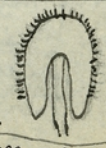
From the summit of Forty Dollar Mt. a fine view of the Coast Range peaks

was unrolled. Beginning at the north there appears in succession, passing to the right: Sherwood Mt., Sanhedrin; Hull Mt., with snow; Snow Mt., a very long broad, snowy hogs back; Mt. St. Johns (the middle of three peaks); Bartlett Mt.; Mt. Konocti; Mt. Hanna; Howell Mt. (?) in the far distance; Cobb Mt., a big mass, with Mt. St. Helena behind it acc. to Purdy; Geyser Peak.*

The consensus of opinion seems to be that pruning of the fruits helps Heteromeles arbutifolia to fruit better. Its fruits are produced, like apples, only on second-year wood, so that a given shrub would bear only every other year.

Purdy says that Bolander never collected on Red Mt. in northern Mendocino. He wrote to Bolander, while the latter was in Portland, and Bolander told him he went from Reddings, the red hills being those to Eureka near Hupa. This then would be the "Eureka Trail" of Bolander.

= Pentstemon (no. 9257).
Anthers distinctly ciliate, dehiscent as far as the cilia. Upper lip deep indigo blue, bifid, re-



See p. 116d. Anther

see over

* See p. 184.

curving. Lower lip red-purple, spreading.

— The Lake Co. Indians traded fish for clam-shell money with the Ukiah Indians. The former also used the obsidian about Uncle Sam Mt. for barbs says Purdy. The obsidian furnished stone axes as well as arrow points. Crystalized nodules in Uncle Sam Mt. were also carried into money by the Indians.

Mt. Konocti is volcanic, Mt. Hanna a volcanic one, Mt. St. Helena the result of volcanic action, Red Mt. is mineralized, while Forty Dollar Mt. is metamorphic rock.

We trailed down the east slope of Forty Dollar Mt. about 120 yards, maybe 180 yards, to Forty Dollar Spring, a famous camp spot for deer hunters.

Altitudes. -

Ukiah, 600 ft.
South Hill Creek Lake Bed, 1300 ft.
Terraces, 2600 ft.
Forty Dollar Mt., 3600 ft.

No. 9294a. Orthocarpus lithospermoides Ben. With 9291. Above Wise Creek, Mendocino Co., 2 June, 1921.
cf. footnote, p. 124.

No. 9294b.

Near Hopland.

— Cont. from p. 119. No. 9285. = M. guttatus DC.

[No. 9302 f. Pogogyne
with 9300.

Windsor, Sonoma Co.,
2 June, '21.

No. 9295. Sidalcea diploscypha Gray.
Adobe flat n. of Healdsburg.

No. 9296. ~~Godetia~~ clarkia amoena Don. var. ~~lindleyi Jepson.~~
Wooded hillslopes, Russian River near Healdsburg (Calhoun Ranch).

No. 9297. Peucedanum, Lomatium carnifolium C. & R. Low dry flats in the low rolling hills west of Windsor. Stems 2 or usually 3, divergent from each other, from surface of ground.

No. 9298. ~~Gilia~~ (Navarretia) viscidula Bth.
With 9297.

No. 9299. Juncus tenuis Willd. var. congesta Engelm.
With 9297.

No. 9300. Microseris paludosa (Greene) J.T. Howell
det. K. Chambers 1/18/55
This cichoriad grew on the oak-covered flats nw. of Windsor, & just east of Calhoun ranch.

No. 9301. Downingia concolor Greene.
Bed of winter pool, same field as 9300.

No. 9302. ~~Gilia leucocephala (Bth.)~~ Navarretia Bakeri Mason
With 9301

No. 9302 a. Spiranthes porrifolia Lindl.
In same field as 7657.

Santa Rosa Valley

No. 9302 b. see p. 120 f. Pogogyne douglasii Bth.

No. 9303. Baeria
With 9301.

No. 9304. Juncus phaeocephalus Engelm. var. paniculatus Engelm.
With 9301.

No. 9305. (Discarded, insect damaged)
This cichoriad grew in a flat in the Santa Rosa Valley* near Wilfred sta. 94 ft. s. of Santa Rosa. [* This area called Cotati Valley on topographic map.]

No. 9306. Evax sparsiflora (Gray) Jepson
With no. 9305. 94 ft.
det. RCB 4/30/62

No. 9307. Gilia cotulaefolia (Bth.).
= Navarretia
With no. 9305. 94 ft.

No. 9308. Brodiaea minor ? Cal. author.
With no. 9305.

No. 9309. Eryngium armatum C. & R.
With no. 9305. Cotati Valley. 94 ft.

No. 9310. (Discarded, insect damaged) Agoseris
With no. 9305. 94 ft.

No. 9311. (Discarded, insect damaged)
With no. 9305. 94 ft.

No. 9312. Orthocarpus lithospermoides Bth. With no. 9305. 94 ft.

3 June 1921

No. 9313. Dowingia concolor Greene.
With no. 9305. 94 ft.

[Calochortus luteus cont. from p. 119. This no. (9280) yellow-flowered. It is less common than the white-flowered 9281. The eye spot in 9280 tends commonly to be quadratish; in 9281 it is either transversely broad lunate or quadrate. The white-flowered 9281 looks so much like C. venustus and yet the gland is exactly that of C. luteus as is the gland of the yellow flowered form.]

- Populus fremontii occurs in the little valley at Largo* Anthemis cotula is abundant near Largo and Hopland. At Hopland a broad white stream comes from the mts. west to join the Russian River.

* = Mendocino Co.

- The stream midway in the mts. betw. Hopland and Cloverdale is Wise Creek on the maps.* There is an old-fashioned two story house, the long way of the house facing the road, 4 windows in each story and a front door. The house is on W. side of road. Two miles from here, one passes a fork* in the road which goes to Yorkville. Beyond this (S.) one comes to Redwood Mt. with scattered clumps of Redwood. (cf. p. 171).

There is a conspicuous peak west of Asti - a good-looking mountain. From near Wilfred sta. below Santa Rosa, on the flat, one has a fine view of Mt. St. Helena; away back is the the mass of forested top of Cobb Mt., between is Pine Mt. Standing isolated and conspicuous to the west of Cobb some distance is Geyser Peak.

* at the fork is Mountain Service sta. Wise Creek appears to be Cummisky Creek on the auto maps. See p. 171.

- W. Scoresby Routledge, ethnologist, big game hunter in Africa, collection of mammals and plants, and explorer generally just called. He worked Easter Island. "One thing to get to it; quite a different thing to get away. It is used as a sort of cattle ranch and there is one Englishman there; nominally a Chilean firm (Balfour Williamson & Co.) but really English. The German fleet came along. My ship (Yacht) had gone to Valparaiso. I had not heard of outbreak of war but I wondered at the number of transports which they had, showing no lights, sending 2 scout vessels round the island at night with no lights, allowing no one ashore informally etc. They loaded up with cattle; offered the Englishman gold in payment

(for they had quantity of English gold taken as prizes) but he said: I don't want the risk of all the gold; give me a check on Valparaiso, which they did. [When he heard of the war, he wished his taken gold!). They did not bother Rutledge! And then they went off and were sunk off the Falklands. Later came the Dresden. The Dresden was hard up for coal and put in finally at Juan Fernandez. The English came along and sunk her at her moorings. The officers had however thoughtfully taken the bullion and prize loot ashore because they knew what was coming. Then they wanted to get to their land of Chile. The boss on Juan Fernandez is a former sea-captain All sailors down in that world

have a feast. He had been down out of his ship by foul play. At any rate he was a great seaman. He had stolen a 40-ton lobster boat. Drove a hard bargain with the Germans. Took care they had neither guns nor knives. So he had them in his powers and zigzagged to meet the English frontiers on that coast. He told him he would have to report to a British captain for fear of being thought a very suspicious character. But the Germans said that would never do. So he landed them on payment of all their luggage, leaving them only the clothes they stood in! He went down the coast, paid off his crew liberally, left the schooner at a port and retired from the service. The owners want to find him and share the loot, because they say: when do we come in! — The advance

of Von Spee's German fleet there came a German in a schooner to buy out the island for tobacco planting. He came ashore with a rake, watering pot and some seed. The seed germinated; when the sun came out there was no tobacco left and he did nothing more. I spoke no German and he no English but I found that he had been in East Africa and so we conversed in the trading dialect of that region."

Rutledge is to collect a set of plants for Kew, Oxford (he is an Oxford man), Cambridge and I think he said Smithsonian Institution. I gave him a tentative order for Univ. Col. set.

After the fashion of traveled

Englishmen generally he is quite diplomatic and complimentary. It seems the Panama Canal was closed down in 1914 (Culebra slide or something) and he couldn't get there. But being a British Museum expedition, under government patronage, so to speak, he got a note thru diplomatic channels and so he was allowed to pass. And he said: "It was awfully good of you to let me thru. There I was, rather in a box you know. It cost you a lot money. It was very good of you I say and I appreciated it a lot." Thus he addressed me as if I were the U.S. government. And characteristically he didn't boast. It took me quite a time to discover he had a private yacht and then I asked him how many he had in his crew.

"Oh", he said, "only ten". It seems the officials asked: Are you a war-vessel? No. Are you a trading vessel? No. Are you a dispatch-boat? No. Well, what are you? I am a scientific expedition. Well there is no scientific expedition provided for in the schedule, so I guess will let you thru. And they did!

– Mrs. K. Brandegee collected some dandy sheets of Eschscholtzia showing variation. Her purpose was plain. But we cannot use the sheets because of lack of data. Variation in stigmas, in corollas. But we don't know whether or no the plants are perennial or whether the flowers have or have not a torus rim.
– July 14, 1921.

– Took Mr. & Mrs. W. Scoresby Rutledge of the British Museum Expedition to Rapa Island, to the summit of Mt. Diablo today.

• No. 9314. Delphinium
Near summit.

• No. 9315. Pentstemon Heterophyllus Lindl. Exactly the same in habit, color of flowers, form of corolla, character of anthers (shape and ciliation) as the plants at head South Fork Mill Creek, Ukiah. Cf. no. 9257.

– Prof. Jos. Grinnell showed me his ms. Pribilof. Cal. ornithology. The slips were pasted in alphabetical order on letter size sheets and all in his own handwriting. He will not have it typed (before it goes to printer) because of errors made in copying. – July, 1921.

Berkeley, July 6, 1921

– We are having some warm days in Berkeley – sufficiently prolonged to make everybody complain. In about 1891 we had such weather. Prof. Greene looked out the window, South Hall, and saw Hickson going across to the garden. He had shed his coat, his white vest shone, his white shirt shone, his white straw hat shone, his trousers were light-colored. Why said Greene, that is indecent! This was in a vein of fun and yet Greene himself would never have done it. He always observed the proprieties regardless and was very formal in his dress.

– Metcalf, Forestry Division, has just returned from the Mendocino woods. He says he saw 2nd growth redwood 148 ft. h., 50 years old.

Los Altos, July 10, 1921.

– Prunus ilicifolia Walp. Trees 28 ft. h., 16 in. trunk diam. Broad rounded somewhat drooping sided crowns, easily passed by for live oak. Disconcertingly thin flesh, remarks H.A. Dutton, in whose house I am a week-end guest. The crowns have the outline of the Live Oak crowns and the density and hue are very closely the same.

– Romneya coulteri Harv. This flourishes in the gardens and is now in fine flower. It spreads by suckers and is hard to control. It has become spontaneous at Los Altos and is beginning to spread in the gardens and orchards, says Dutton.

– Medicago sativa – a little spontaneous here says Dutton.

Santa Clara Co. Alviso, 11 July 1921.

No. 9316. Oenanthe sarmentosa
Presl. water ditches.

No. 9317. Dipsacus
very abundant in low
lands for miles about Alviso.

No. 9318. Bonium maculat-
um L. very abundant in
the lowlands, up to 10 ft. h.!

No. 9319. Cyperus
water ditches.

– Mrs. Frida Abrahathy counted 45 Sarcodes sanguinea in a space 4 ft. square. Headwaters of North Fork Tuolumne River. – July 1921.

– Mrs. Susan Blake remarked that Cercis occidentalis is not carried by nurseries. It is one of the most ornamental of shrubs and very unusual in its flowering and coloration. Its range is singular. It is in Lake Co., they say, and in Potter Valley but not southward towards the Bay. This local occurrence or absence needs to be verified. – Aug. 28.

– Left Berkeley aft. Aug. 4; drove to Ukiah and camped in the city auto grounds at 1000. Left next morning at 8:00, drove north thru Little Lake Valley to Laytonville. Little Lake Valley is a splendid lake bed for a botanical thesis. Longvale is a station on the railway about half-way betw. Willits and Laytonville. It is a 3 or 4-house hamlet.

North of Laytonville about 5 miles thru are fine colonies of Arctostaphylos manzanita Parry in the hills – small colonies but characteristic and 8 or 10 to 11 feet high.

South of Laytonville two miles on valley flats, pond-filled in winter I collected: Aug. 5.

No. 9320. Navarretia squarrosa H. & A.

No. 9321. Lythrum hyssopifolia L.

most of the plants were dead dry and sun-burned.

Long Valley, Mendocino Co.

No. 9322. Lotus americanus Bisch. = L. purshianus

No. 9322. Psilocarphus oregonus Nutt.

This small gnaphaloid plant was quite dried up.

No. 9323. Polygonum

- On all the hills in this region there are fine colonies of Arctostaphylos manzanita. Its colonies are most characteristic as a border on the lower side of Pinus ponderosa and Quercus Kelloggii areas, and occur prominently all the way from the south end of Long Valley well towards the ascent over the divide to Cummings.

Aug. 5, 1921.

- Long Valley and its arms are drained by a tributary of the South Fork Eel River, namely Ten-mile Creek. Willits, on the contrary, in Little Lake Valley drains into the main Eel River. Cummings is on Rattlesnake Creek, a fork of South Fork Eel River. I go down the South Fork and camp in the Bolling Grove at Elk Creek. The next morning at ten o'clock occur the dedication exercises*. The exercises were simple but impressive. The speeches were good and not too long. After the exercises the invited guests drove to Bull Creek and were entertained at luncheon by the Chamber of Commerce of Eureka. In the evening I went on to Eureka and was most hospitably received at the home of my former student, Jos. P. Tracy.

* dedicating Bolling Grove.

— Klamath Weed (Hypericum perforatum) is so-called because it started in the Klamath county. It has no rootstocks but crown-sprouts, says Mr. Tracy, and is remarkable for its vigor and vitality and its power to withstand drought better than the native species it competes with. It is the greatest menace to the grazing interests that ever invaded California.

Here in this region is the Australian Fire-weed (Erechtites). It forms brushy thickets 4 to 8 ft. high, is perennial and is exceedingly vigorous and aggressive. One sees its colonies all the way from Eureka to Crescent City in the Redwood country.

— Between Eureka and Trinidad we passed thru cut-over Redwood country. I was amazed at the ghastly character of the country. Huge Redwood stumps and masts stood high, fire-burned — and above everything else I was impressed with the scantiness of the reproduction of Redwood. Few of the stumps had any crown-sprouts, — because the country had been so devastated with fire so many times.

Redwood has always been logged by the use of fire but nowadays the firing is much more intensive — and the result is a vastly greater annihilation of the life in the area.

See p. 142.

No. 9324. Sidalcea = S. oregana ssp. eximia eximia Greene.
Tracy says this is exactly like his plant made the type of Greene's eximia. – Dows Prairie

No. 9325. Helenium
Dows Prairie.

No. 9326. Scirpus
Stone Lagoon

No. 9327. Juncus bufonius
Stone Lagoon

No. 9328. Eleocharis macrostachya
Stone Lag

No. 9329. Rumex ~~maritimus~~ fueginus Phil.
Stone Lagoon

No. 9330. Spergularia
Stone Lagoon

No. 9331. Gnaphalium
Stone Lagoon.

No. 9332. Carex
Stone Lagoon.

No. 9333. Lilaeopsis occidentalis C. & R.
Stone Lagoon

No. 9334. Polygonum persicaria
Stone Lagoon.

No. 9335. Hippuris vulgaris L.
Stone Lagoon.

No. 9336. Scirpus
Stone Lagoon

No. 9337.* Sagina apetala Ard.
Stone Lagoon.

No. 9338. Iris.
Tracy calls this I. douglasiana. It occurs in heavy colonies on the headlands in Del Norte Co. not far from the mouth of the Klamath. The stools are heavier than I have ever before seen them and the colonies were nearly pure and covered 2 or 3 acres each.

* No. 9337a. Alchemilla ~~vulgaris Scop.~~ occidentalis Nutt.
Stone Lagoon

Stone Lagoon

- Potamogeton natans covered about 300 acres of Freshwater Lagoon with its bronze-colored leaves.
- Lysichiton Kamstchatcense common along the coast: at Big Lagoon, Stone Lagoon
- Nurseries of young seedlings on fallen Redwood trunks: Picea sitchensis, Tsuga mertensiana, Acer vitifolius, Vaccinium. It is noticeable that Ericaceous species tend to humus as well as the Montropaceous species which are pure saprophytes.
- At Stone Lagoon we botanized on the beach of the lagoon and its low seepage flats. Nos. 9326 to 9337 were collected on the flats and beach.

Regua, Klamath River, 7 Aug. 1921
Del Norte Co.

- No. 9339. Franseria chamissonis Less. var. bipinnatisecta Less. On sand beach of the Klamath River.
- No. 9340. Trifolium involucratum Ort., var. kennedianum Jepson. = T. Wormskjoldii Lehm. Showy purple-headed plant on sandy beach of Klamath River.
- No. 9341. Juncus Volandri Engelm. with 9340.
- No. 9342. Scirpus americanus with 9340.
- No. 9343. Juncus articulatus L. (det. P. Rubtzoff, Jan. 1972)

- When we reached the Klamath River we found the ferry not running by reason of its gasoline engine being out of order. That night we passed on the south shore. The river is full of fishing boats in pursuit of the salmon trout. We saw two inexperienced young tourists from Fresno take out five fish, the

largest weighing about 25 pounds. The river is 2000 yards wide at the ferry. It is here a tidal stream since the ocean is only 1/4 mile or less away. There is a salmon canning establishment on the bank of the river. This morning we cross at 6 o'clock and turn inland a few hundred yards and then northerly, following up High Prairie Creek, the cañon of which is filled with Sequoia sempervirens, Tsuga heterophylla, Picea sitchensis, Chamaecyparis lawsoniana (a few trees in one spot). The jungle beneath the trees is composed of Sambucus callicarpa, up to 16 ft.-h., Rubus parviflorus up to 10 and I think 14 ft.-h., Rubus spectabilis, the Salmon Berry up to 10 ft.-h., Rubus vitifolius, Woodwardia radicans,

Pteris aquilina, Vaccinium parvifolium, Oxalis oregona, Mimulus Langsdorfii, Ranunculus repens (this Buttercup abundant in little grassy meadows). We camp for breakfast after 3 or 4 mi., with a crested Blue Jay or Steller's Jay for company. — After leaving the drainage of High Prairie* Creek we come down in a few miles to Wilson Creek, which enters the ocean directly. We climb up again as usual. The Redwood covers the country back of the bluffs but does not ocean on the ocean bluffs or at least only a few scattered trees if any. The Ocean bluffs carry a soft chaparral consisting of Rubus parviflorus, Holodiscus discolor (12 ft.-h.!), Pteris aquilina

* Cf. Map. Perhaps this should be Hunter Creek.

In the Redwood itself the undergrowth makes a formation which I have described but the type varies. We ran into a forest n. of Wilson Creek, where for six miles Rhododendron californicum was the dominant on the floor. I had never before seen so much of it nor such large individuals – up to 26 ft. h! When this is in flower in June the woods are very beautiful says Mr. Tracy.

- No. 9344. Erechtites prenanthoides D.C. Australian Fire-weed. Forms heavy thickets 4 to 8 ft. h! very dense and utterly excluding other vegetation. High Prairie Creek.
- No. 9345. Erechtites arguta
- No. 9346. Sagina apetala Ard.
- No. 9347. Lysichiton

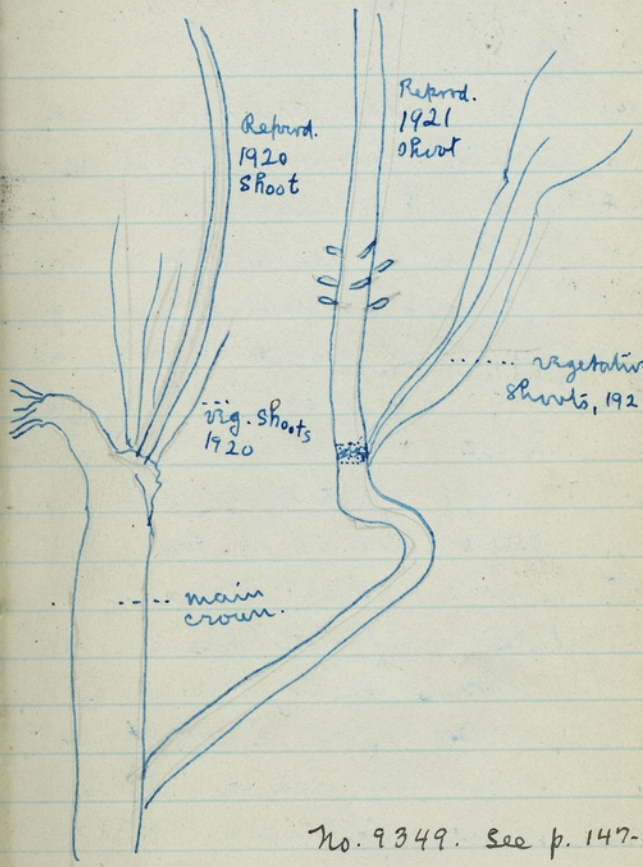
See p. 148

Nos. 9344–9347 = High Prairie Creek.

- Cirsium lanceolatum common at Crescent City. 3 to 6 ft. h.
- Erechtites near Fort Dick (same as no. 9345.)
- Cirsium ← arvense L., Canada Thistle, more or less common in opens all way from Eureka to Crescent City and at both places. 4 to 6 ft. h.
- Leaving Crescent City we went n. on the Smith River road, passing in succession Lake Earle School (Lake Earle being on the labels of Davy), Fort Dick (a hamlet), Rowdy Creek Smith River town, then after a few miles we stopped to botanize and collected the following:
- No. 9348. Brunella vulgaris L. = Prunella var. lanceolata (Bart.) Hult.
- No. 9349. Hypericum perforatum L. This has a deep-seated tap-root which sprouts anew

Gilbert Creek, n. of Town

from the root-crown each season. A number of sprouts come and serve as foliage shoots but only one of these becomes a reproductive shoot. One gains the ascendancy over the others and I have never seen but one flowering stem in a place and one only sees the other shoots by investigating the base of the plant and noticing the wisp of dried stems. At this time the flowering shoot bears a number of young vegetative buds near the base. These during the winter will grow, make leafy shoots to store reserve for the plant later on. The top root gives off short stolons which on reaching the surface develops the short-lived leafy shoots as aforesaid and one reprod. shoot which is of course leafy below.



No. 9349. See p. 147-148.

Hypericum perforatum L.

— We drive on and stop to botanize in a thicket on east side of road, ½ mi. from state line, about 1 mi. n. of Gilbert Creek.

Gilbert Creek, n. of Smith River Com.

alt. c. 50 ft.

No. 9350. Silene gallica L.
Petals pink-red with a narrow white border.

No. 9351. Crepis capillaris

No. 9352. Geranium molle L.

No. 9353. Navarretia squarrosa H&A.

No. 9354. Galium trifidum

No. 9355. Geum macrophyllum Willd.

No. 9356. Ligusticum apiodorum C. & R.

No. 9357. (Discarded, insect damaged). Hellenium bigelovii

No. 9358. Polemonium carneum Gray. Corolla pale pink – a long live pink, however, not a dull pink. This grew in thickets of Thimble-berry, Blackberry, Rubus nutkana, Baccharis pilularis, Salal. It becomes 4 ft. tall. It has several soft-woody stems from the root-crown, the perennial portions of the stem being about 9–12 in. high. My spm. had four. In putting down the plants for a sheet spm. only one was kept. Cor. aging deep pink.

Marah oregana (T. & G.) Howell

No. 9359. Echinocystis oregona Cogn. This covered a Myrica californica bush 12 ft. h., running over its broad summit.

– We run on, cross the Winchuck River, run to the Chetco River, cross it by a high bridge and thence to the environs of the mill town of Brookings. We retrace our track, go up the Chetco River, take down the bars in a fence and go down to camp by the river, over which and up and down we have a lovely view. Both sides of the river have been logged but is well-covered again with reproduction. The California Laurel on the logged areas shows as very dense broad-oval heads with flowing outline. The fence about the camp spot is

made of alder (Alnus oregona) rails. The branches, lying on the ground over one under, are used for camp-fire. They have no life and such a fence must be short-lived. Mr. Tracy says Alder wood is valued for fire-wood but after it has well dried in the summer and must be covered before the winter rains. Like oak it is slow to start fire but burns well after starting. In the Eureka district redwood is preferred for fencing but in places where redwood is scarce Pseudotsuga taxifolia is used, tho it is so hard it does not split well, just as oak may be used in certain districts.

Robins with their spotted breasts are common about camp this morning.

As we passed over Smith River I saw in the bottom a mill

and out in the open a rowboat just built of redwood. It looked most trim and pretty.

No. 9360. Pyrus rivularis = Malus fusca (Raf.) C.K. Schneid.

Mouth of the Chetco River; umbels 4 to 11- fruited.

No. 9361. Mimulus dentatus Nutt.

Two miles up on Chetco River

No. 9362. Helenium

with 9361.

- Phacelia Bolanderi Gray, in fl. here.
- Digitalis purpurea.

No. 9363. Rubus laciniatus Willd.

The Common Blackberry has run wild forming thickets 8 ft. h. & 12 to 20 ft. in diam. We found seedlings. The early fruits were abundant enough to give us a feast.

- Cirsium lanceolatum

Abundant in edge of forest. 6 ft. h.

- Epilobium spicatum 8 ft. h.
[- Abies grandis, Smith River
form, 18 ft. circ at 4 ft.]
- We run up Jack Creek to a ranch where a young fellow said that there was a small branch of Redwood 2 or 3 miles up. That had been logged. Also a small branch 10 mi. up main river. The main grove is 4 or 5 miles up.
- We go back and follow "county road" thru many gates up the main river to Tamba Ranch. We lunch and cross the river by wading in our bare feet. It is a real ordeal, walking over the stones. We "fool around" in the woods seeking the trail but after a lot of hard work we give up and come back to Tamba's, this time crossing in a rowboat. We find the

trail to be on the south bank and prepare to start up tomorrow morning.

Mt. Emily looms high to the se. It is a real landmark - a high dome-shaped mountain with a distinct chaparral belt above timber line.

On Jack Creek we noticed a Prunus emarginata tree, tall and straight, 20 ft. h., in the open.

Coming up to Tamba Ranch we passed the most shapely tree 15 ft. h. of Ceanothus thyrsiflorus that I ever saw - a trunk 5 ft. h., a fine symmetrical crown of erect or somewhat spreading branches.

Corylus rostrata, a form on the immediate coast with fruit half as large as the ordinary form, its fruits fertile.

- Gray Fireweed is here on the Chetco River (Erechtites arguta DC.)

Mr. Tracy proposes to call the other one Yellow Flowered (Erechtites prenanthoides DC.) in contra distinction.

No. 9364. Lampsana communis L.
Jack Creek, Chetco River.

No. 9365. Chrysopsis
Gravel bars of the Chetco River at Tamba Ranch. This plant must be submerged for four or five months. I have never seen this except on gravel bars of stream beds. Mr. Tracy says it is common on the Van Duzen and Eel rivers.

No. 9366. Oxalis oregana Nutt. var. tracyi Jepson n. var
Cor. small, 1/2 or 1/4 size of the large-flowered state in Marin Co., and white. Styles slightly hairy. Five short stamens with the anthers opposite the yellow dots on

lower part of petals and standing over the entrance way to the honey which is formed by the creased or channeled claw, the margins of which are connivent with the margins of the adjoining petals.

No. 9366a. Oxalis corniculata var. ? = O. suksdorfii Trel.
Large-flowered. Woods, Tamba Ranch.

— Tamba Ranch. This is a Portuguese place. The father is evidently a native Portuguese. There are two boys. One of them says he goes to High School at Modesto, Cal. and is studying Latin very hard because he means to be a lawyer. He says Latin is very difficult for him, very difficult indeed, and he has to get it by very hard labor, but he means to stick to it until he gets thru. It was a rough wild place and one would not have expected such an incident in such a place.

Tamba Ranch, Chetco River

- We took the trail up the river, south bank, this morning. At Emily Creek we went down to the river took off our shoes and waded. We so crossed the river three times, the third time getting into deep water and wetting our clothing and equipment. We then worked up the opposite hillside into the Redwood area. We measured two trees as follows:

No. 1. Diam. at 5 ft. = 6'9"

No. 2. Diam. at 5 ft. = 8'2" x 7'.

About 150 to 175 ft. h.

Associated with Douglas Fir and Tan Oak. Down Redwood logs had rotted and bore hundreds of young, tiny Redwood seedlings. There are said to be about 150 acres of Redwood in this Chetco grove.

Aug. 10. 1921.

Curry Co., Oregon

- No. 9367. Phacelia Bolanderi Gray. On broken ground along trail.
- No. 9368. Rhamnus purshiana DC. Crown sprouts. The pigeons are feeding on the berries, whence the name for the bush or tree in this region (16 ft. h.) = Pigeon Berry.
- No. 9369. Luzula

Woods near Tamba Ranch

- Saxifraga peltata Torr., it makes most beautiful clusters along waters edge on rocky banks.
- No. 9370. Panicum pacificum Hitchc. + Chase

Mouth of Emily Creek.

- No. 9371. Juncus covillei Piper (det. P. Rubtzoff, Jan. '72)

With 9370.

- No. 9372 Muhlenbergia andina (Nutt.) Hitchc.

This grass grew on the rocky shores of Chetco River at Emily Creek. Its rootstocks are adapted

to riparian distribution acc. Tracy.

No. 9373. Sequoia sempervirens Endl.
Chetco River, s. slope, i.e. n. side of river.

No. 9374. ~~Godetia~~ Clarkia amoena Lilja.
Some cors. with spots, some without. Some starved dwarfs noticed with corollas 1/4 in. long!

No. 9375. Lotus aboriginus Jepson.
Mt. Emily.

No. 9376. Rhododendron macrophyllum D. Don

No. 9377. Arctostaphylos columbiana Piper? canescens Eastw. Crown sprouts probably

No. 9378. Arctostaphylos columbiana? Apparently this not from crown sprouts, but the bushes (6-8 ft.) may have been seedlings.

No. 9379. Pinus ~~tuberculata~~ attenuata Lemmon
Slender trees 15 to 30 ft. h., on rocky ridge in mixed chaparal. Mt. Emily.

No. 9380. Arctostaphylos canescens Eastw. These bushes are crown sprouts! Rocky ridge, with 9379.

No. 9381. Pasania densiflora var. echinoides. Bushes 6 to 16 ft. h. Very heavily fruiting.

No. 9382. Pasania densiflora var. echinoides. Both these nos. of Pasania, with 9379. The nut is broader than long! in 9382.

No. 9383. Solidago

No. 9384 Panicum lanuginosum Ell. var. fasciculatum (Torr.) Fern. (= P. pacificum)
This grass grew on a fertile hillslope. (Det. Beecher Crampton, 1973)

- Re. note on Phacelia Bolanderi p. 159 supra, Mr. Tracy remarked it very abundant along new railway cuts in Humboldt Co.
- Zonation along the Chetco River is very marked: Salix sitchensis on flats and gravel bars. Next Alnus oregona (A. rhombifolia with it at Emily Creek); next Rhododendron californica on the bench; next Pseudotsuga taxifolia, Arbutus menziesii & Pasania densiflora. Acer circinatum is a shade plant under the Laurel.

Populus trichocarpa at Emily Creek on Chetco River.

- There are no Redwoods on the flats of Chetco River, no Redwood stands. But we found a few Redwood seedlings on the gravel bars of the river. This note continues the note on p. 168.
- I saw only a few pigeons here but they were probably 500 in a flock near Stone Lagoon. We flushed a few grouse today.

– we come down the Chetco River, stop a moment with a rancher L. J. Fenton, (Harbor P.O., – Ore.) whose place we need as a camp going up. He gave us some fine June apples. On down to Harbor, an old-time hamlet at mouth of the Chetco. Thence to the Winchuck River, coming to the California-Oregon line in half-a-mile, then in half-a-mile to the botanizing place where we obtained nos. 9354-9358. Pt. St. George is a picturesque headland. Then Smith River. Ft. Dick School, Ft. Earl School, then a hamlet (Wakefield) with a school, not far from Crescent City.

Called at office of James Davis (see vol. 17, p. 140a), the lawyer, but he was not in. Prof. Cowles and his party of 18 students from Chicago are near here.

No. 9385. Rosa pisocarpa Gray with 9358. Near Gilbert Creek.

This species formed part of a thicket in which we botanized when coming north; see p. 150. This thicket contained a good deal of Myrica californica as well as other species noted on p. 150.

No. 9386. Centaurium umbellatum Gilib. / ~~Erythraea centaurium Pers.~~

Fields northerly from Crescent City, about 4 miles. The field was pink with it, say 25 acres. Valley flat. This is near the hamlet of Wakefield.

– we stop to botanize on the flats south of Crescent City a mile or two. The beach is strewn with huge Redwood logs 3 to 8 ft. diam. It is a strange and singular spectacle; thrown up out of the maw of the ocean, disgorged, thrust back to the land whence they came.

- We climb up grade from Crescent City flats. Many large Redwoods, 6 to 12 ft. diam. at 4 ft. Undergrowth for five miles is dominated by Rhododendron californicum, locally called magnolia. The leaves and their arrangement is wonderfully magnolia-like. Over vile roadway roads* and vile dirt roads we came down to a creek, cross it and then follow a grade along the ocean but rather high up, eventually coming down into Wilson Creek, a deep channel in the mountains, running far back. We cross it and climb a little, pass inward up a cañon with a beautiful little lagoon in the bottoms. This cañon opens directly on the ocean but the drainage

* see p. 171.

flows on seven flows inwardly and southwardly. Just where the divide is I am not sure but there is little grade all the way down High Prairie Creek to Hunter Creek and the Klamath River. It would seem as if, in this case, the headwaters of a tributary of the Klamath River had been captured by the ocean eating into the land.

[At the crossing of the Klamath River the Indian boy helper on the ferry watches me closely as I write during the passage. My recording of notes seems rather to fascinate him and he scarcely takes his eyes from me.]

Crescent City.

Del Norte Co.

No. 9387. Alnus
Shrub-like on the flats, growing near A. rubra.

No. 9388. Erigeron philadelphicus L.
Moist flats or marshy spots just back of the sand-dunes, near Crescent City, about 2 mi. s.

No. 9389. Conioselinum gmelinii C. & R.
This umbellifer grew with 9388.

No. 9390. = L. japonicus var. glaber Lathyrus maritimus Bigelow var. glaber Eames. Sand-dunes at the beach
Cor. purple-crimson, showy.

No. 9391. Sisyrinchium californicum (Ker.) Dryand.
with 9388.

No. 9391a. Cirsium ~~breweri~~ ? Leontodon leyseri
with 9388. 9391 B. ↑

No. 9392. Juncus
with 9388.

No. 9393. Spiranthes romanzoffiana Cham.
with 9388.

No. 9394. Juncus
with 9388.

No. 9395. Franseria
with 9390.

No. 9395a. Spiraea douglasii Hook.
Crescent City flats. with 9387.

— Hypochaeris radicata, abundant.
— Cont. from p. 166. Rhododendron californicum in these woods is amazingly tall, up to 20 and 24 ft. h., occasionally 30 ft. h., 3 in. in diameter at 2 ft.
— Clintonia andrewsiana Torr.
— Trillium ovatum

Ragged Hill, s. of Crescent City.

Del Norte Co.

No. 9396. Habenaria elegans var. maritima Greene.
Ocean bluffs.

No. 9397. Hieracium albiflorum

No. 9398. Castilleia

No. 9399. Cirsium vaseyi (Gray) Jeps.

No. 9400. Diplacus aurantiacus (Curt.)

No. 9401. Chrysanthemum leucanthemum L.

Ox-eye Daisy

No. 9402. Eriogonum nudum var. nudum

No. 9403. Holodiscus discolor Maxim. var. franciscanus Jepson.

No. 9404. Silene scouleri ssp. grandis (Eastw.) Hitchc. + Mag.

No. 9405. Eriophyllum

No. 9406. ~~Godetia~~ Clarkia amoena Don. var. lindleyi Jepson.

11 Aug. 1921.

No. 9407. Cotyledon farinosa Baker. = Dudleya farinosa
= Echeveria cotyledon Nels. + Mcbr.

— Ragged Creek is 4 miles s. of Crescent City.

— Cont. from p. 124. I am a little doubtful of "Redwood Mt", at least I cannot pick it up on a map again — nor "Wise Creek". "Alder Glen School", — on p. 120, ante, if this applies to a possible school down on the Russian River flat, it is all right, but the school up on "Redwood Mt." is the one most used by me as a landmark.
— 3-17-38.
Wise Creek is on the official Supervisor's map, Mendocino Co.. Perhaps Redwood Mt. is there too.

– On reaching the south shore of the Klamath Mr. Tracy expressed a wish to drive on to Eureka that night. It was now near six o'clock. I, of course, agreed, and we went on, stopping at Maple Creek for a little lunch. We arrived in Eureka about 1:30 am. Mrs. Tracy, the mother, got up and made us a hot supper.

The next morning I discovered the loss of my Field Book, this Book. My last remembrance of it was at the crossing of the Klamath. In the afternoon Mr. Tracy and I drove back as far as Maple Creek, thinking possibly to find it: we did not, but had good botanizing on the fern prairie at the south end of Big Lagoon. [The book was found and returned to me by a lumber worker four days after my return to Berkeley.]

No. 9408. Lonicera involucrata

No. 9408a. Cirsium

Canada Thistle is common all along the road at intervals.

No. 9409. Ceanothus thyrsiflorus Esch.

Fern prairie, S. end Big Lagoon.

No. 9410. Arctostaphylos tomentosa Lindl. = A. columbiana Piper. We walked down the gentle slope from the road, where we stopped the machine, along a wagon trail to the fern prairie flats at S. end of Big Lagoon. The upper part of the prairie has a little brush, one of the species being this Arctostaphylos. The shrubs were 4 to 7 ft. h. and gave every indication to my eye that they did not crown sprout. A little further along a strip had been burned thru, perhaps five years ago said Mr. Tracy. One manzanita killed outright by fire was still standing. It had been scarcely injured in

the sense of actual consumption of its tissues. But it had been heat-killed; the effect of intense heat was lethal. There was no doubt about the determination of the sp. since a few small clusters of berries still hung on the bush. The look of the dead bush, its hue and aspect, was quite different from the dead body of the Tamalpais species - A. mummularia, so called, - or that of A. manzanita. This fact satisfies me that A. tomentosa does not crown-sprout after fire or rather confirms previous records. And these shrubs are A. tomentosa, as typical as anything we have in Cal. and very like the shrubs of Ore. & Wash. Nothing on this trip pleased me more than this determination of the reaction of A. tomentosa to fire. [A. tomentosa Cal. Auth. = A. columbiana Piper.]

No. 9411. Gentiana oregana Engelm.

No. 9412. Spiranthes romanzoffiana

No. 9412a. ~~Brodiaea~~ Tritelia laxa Benth.

No. 9413. ~~Prosartes~~ Disporum

No. 9414. Gnaphalium

No. 9415. Habenaria elegans

No. 9416. Navarretia squarrosa H&A.

No. 9417. Eriophyllum lanatum

var. ? With a deeply-seated rootstock. achillaeoides Jepson.

- Salix sitchensis - 28 ft. h., trunk 5" in diam. at 2 ft.
- Pseudotsuga taxifolia Britt., coming rapidly into pastures where doubtless it had previously been.

– Arctostaphylos manzanita occurs on the South Fork Eel River near Piercy P.O.

– I pulled out to the side of the road in a little flat south of Piercy P.O. and made camp for the night near a grove of young Pseudotsuga taxifolia. I was within 100 yards of Chas. Neilsen's cabin. He came out to talk. He said there Douglas firs, now 75 to 90 ft. h., were 2–4 ft. h. when he came here 25 yrs. ago. He spoke of a certain plant which had been determined for him thru the kindness of a University professor

– Old Man Kennedy. My inquiring glance flustered him a bit for he said: Well, I didn't see him but the boys here called him Old Man Kennedy. This is a story I must tell Dr. Kennedy.

– East Branch is a large creek, coming from Mail Ridge, that one crosses 3½ mi. s. of Garksville.

– Red Mt. Creek is 2 mi. s. of Neilsen's Cabin.

– 3 mi. s. of Little Red Mt. Creek is a deep gorge with creek.

– ½ mi. southerly from Leggett Valley is a big creek., ¼ mi. s. of this another deep creek.

– Thence easterly up Rattlesnake Creek. Past Cummings, turn southerly. At divide to Long Valley is Arctostaphylos manzanita, 10–16 ft. h., trunks 4–6 in. diam. One individual 12 ft. h., was 3 ft. 9 in. circ. at 1 ft. Just an average individual of the larger sized shrubs.

No. 9418. Trichostemma lanceolatum Bth.
Neilsen's Cabin, South Fork Eel River,
Near Red Mt. Creek. Nw. Mendocino Co.

No. 9419. Osmorrhiza nuda Torr.
Red Mt. Creek, nw. Mendocino Co. near South Fork Eel.

No. 9418a. Ceanothus incanus T. & G.
Neilsen's Cabin, 2 mi. n. Red Mt. Creek.

No. 9420. Heteromeles arbutifolia Roem.
With 9419. Nw. Mendocino Co.

No. 9421. Malacothrix floccifera
Creek next. s. of Red Mt.
Creek, nw. Mendocino Co.

No. 9422. Eriogonum nudum var. nudum
With 9421.

No. 9423. Ericameria arborescens (Less.)
4 ft. h. Rattlesnake Creek, nw. Mendocino Co.

No. 9424. Arctostaphylos manzanita Parry. Hills n. of Long Valley, n. Mendocino Co.

No. 9424a. Eriogonum vimineum
correct loc?

No. 9425. Rhamnus californica Esch. typica CB Wolf
Willits.

- From the summit this (south) side of Cummings we have Pinus ponderosa and Quercus Kelloggii country. All about the bases of low hills bordering the narrow valleys and in open and in flats there is a great abundance of Arctostaphylos manzanita - fine colonies! We follow down stream several miles, then leave it and turn up a small cañon, reach a summit and descend to a valley level again and after a little reach Laytonville, with the manzanita in evidence all the way or nearly. I do not know that I have ever seen so much of it.

S. of Laytonville leave valley, pass over a very slight divide and go down stream for miles and miles - a slight grade but I am surprised at the continuity of it. At Longvale it is joined by a stream from the South and the two (Outlet Creek) break directly thru the range East joining a main branch of the Eel River.

indexed

— "Pholisma arenaria.

Manhattan Beach., n. of Redondo Beach, T. W. Minthorn, Aug. 1922. On the following roots: Eriogonum parvifolium; Abronia umbellata; Ericameria ericoides. Minthorn brought in the roots with stumps of the parasite attached. (of these species

— Brandegee, K., Mrs. — Everyone who was in her company did well to take some pains to hold his tongue. She might easily pervert what he said; or worse fortune still, take offence at some remark. And yet she could be soft, suave and seductive beyond saying when she wished to seduce someone from allegiance to his friend, the latter person being her enemy.

— There called today Dr. Olof Arrhenius, Stockholm, Sweden who said: "American plants are very strong now in Sweden as emigrants. 70 % of the aliens in Java are American. I am suprised that you tell me that Hypericum perforatum is a dangerous weed with you — it is with us only as a rarity rather, in dry places, — mostly it is too moist for it. I am suprised at the little time you in American universities have for research. It is too bad that botany is not regarded in America as a practical science. I notice the large number of women in your laboratories. Is it that botanical science is regarded as a nice pretty one? I notice that public opinion has so much to do with

Berkeley

what is given in the University. But what does public opinion know about the needs of the sciences of Chemistry, Physics and Botany? We have disadvantages at home – but public opinion does not control the universities. The universities should be independent – for scholarship and research."

– The advance guard of the Cornell Botanical Expedition is here, having come across the continent via Glacier Park, Yellowstone Park. Mt Rainier, Portland, Mt. Shasta. There came in today, Aug. 25, Hempstead Castle and Walter R. Dann. When they came down into the Great Valley from Shasta they realized they were in California. Then they saw for the first time in their lives Big trees; for the first time olive trees.

They slept under a Palm tree and counted it a most wonderful event. Dann talked of Mrs. H.L. Grant's work in the Dept. Biol. at Cornell, that everyone went to her for help and that she had the lectures as well as the lab. in Dr. Wiegand's taxonomic course which is evidently one of the main courses. She has formed a scientific society, Kappa something or other, for the scientific women, that is the advanced ones, a society which corresponds to Kappa Alpha. Castle spoke of his experiences in France – of the burning of vast quantities of supplies, clothing and medicine, because they did not want to move them back to such and such a place. This was not due to pressure from the enemy. He spoke of a Y.M.C.A. man who sidetracked carloads of supplies into a canteen which

he runs himself or at least controlled and sold stuff to the soldiers at a little less than the usual price at the other canteen, that this man was "awfully good", that he used get up in the night to make coffee for an incoming train load of soldiers and that everyone liked his care and thoughtfulness. And thus he was able to loot the supplies.

Dr. Wiegand is now at Tahoe and will be in Berkeley in a few days. There were three machines in the party.

[Cont. from p. 120c. Nearer is Coon Mt. It lies to the north of Forty-Dollar Mt. and shows up as a high and long east and west ridge densely fringed with a line of trees which betrays the Quercus kelloggii forest on the north slope.]

– Chas. Piper Smith was in to call today. I think he was a bit embarassed. He asked me if the plant on which I based my Lupinus affinis var. carnosulus had hairs on the keel. It struck me as extraordinary that he should expect me to remember a detail of that kind; or it may be regarded as a high and very delicate compliment. He is studying Lupinus very intensively, taking a section at a time, making several or perhaps many detail drawings of the flowers of a single species, the drawings based on specs. from different areas.

He had a position at College Park, Md., now the college State Univ. of Md. Before that he was 3 yrs. at the univ. at Logan, Utah. He was a student under Stanley Cutler at Purdue Univ. and a graduate student at Stan-

ford University. He is now at the San Jose High School and has come to Berk. to be able to study Lupinus in the field. He is to write Lupinus for Abrams Flora. He says very species in Abrams Flora is to be illustrated. I pointed out that either Abrams in such case would take a very large view of species or that the work would hold to three volumes. I intimated that I did not believe every species would be illustrated. Smith intimated that Abrams had fallen into a larger task than he knew. This is very likely but is nothing against the project. Smith spoke very solemnly and earnestly of his desire to cooperate. "There is only one person I cannot cooperate with. M. E. Jones. He won't cooperate. He wont sell me plants unless I take a big set and the set may not contain what I wish. Jones

wife is dead." - It always amuses me to hear the singular agreement regarding this "wild ass of the desert." Smith took an MS. at Stanford.

- The Cornell Botanical Expedition, main party, got in here last Friday. There were three young men in the party, Castle, Dawn, Starr, three young women, Miss Cattell, daughter of J. McKeen Cattell, Miss Douglas and one other. Professor Upton of the Engineering College at Cornell, Dr. & Mrs. Brigand. They collected 3000 spms. - and almost as many species. The women were trousers and I could easily have mistaken Miss Cattell for a boy. All were well bronzed and the party arrived in good health. -

- Rhus diversiloba T. & G. The distinguished blind mathematician, Newell Perry, lost his eyesight and became totally blind then a bad case of poison oak at nine

years of age. – S.F. Chronicle, June 23, 1895.

– "our most zealous and successful Kate Layne Curran" – E.L. Greene in Bull. Cal. Acad. 1:9.

– Private herbaria: In a set of Begonias from the Field Museum the labels or stamps give the following data: "Hitchcock's Florida Herbarium, purchased 1908" stamped on sheet. Shows that A. S. Hitchcock while at Kansas maintained a private herbarium.

"Herbarium of Dr. Arthur Schott," printed on label. Cult. Begonias coll. by Schott in U. S. Prop. Gard., Washington, in 1871. "Herbarium of J. T. Rothrock, 1840-1880. Purchased 1909." Stamp on sheet.

– Sequoia sempervirens in the German brown coal: Ber. Deutsch. Bot. Gesell. 39: 258 (1921).

– The origin of various early types of Cal. plants is still an enigma, especially when the publication is of a single species or few.

There were, however, a good many free lance travelers, and some of these may have picked up a few plants as curiosities or taken seed. The continental publications are more obscure in this regard than the British. The number of travelers who published narratives of gold days is amazing: cf. Lienhard, Heinrich, Californien unmittelbar vor und nach Entdeckung des Goldes. Zurich. 1898. Meyer, Carl, Nach dem Sacramento. Aaran, 1855. – (June, 1923).

– Hooker & Gray. Collected the (in Cal. rare) Lutkea pectinata on Mt. Shasta. Butler collected it on Woolly Creek, w. Siskiyou Co.

– Winds, Veering of backing winds as indicating weather. Mo. Weath. Rev. 51: no. 5 (May, 1923).

– Lemmon J. G. and Plummer, Sara A. Trip to Pyramid Lake, Bot. Cal. 2: 240.

— In the terminology of the day Katharine Layne Curran may be said to have been something of a spark plug. Things were a bit explosive wherever she was around. The Layne ranch is near Pilot Hill, Eldorado Co.

— Davidson, Geo. Director of U. S. Coast and Geodetic Survey on Pacific Coast. A very able man, a fine scientist and wonderfully profane. He was a friend of the gentle and spiritual Albert Kellogg, the botanist, and the less spiritual but alert and vigorous Edw. L. Greene, botanist; for both of whom he occasionally collected plants; such plants sometimes found their way to Asa Gray, whence Phacelia davidsonii Gray, — a rather uncertain species just now. Cf. Pentstemon davidsonii.

— Herbaria, Private. S. F. Blake, U. S. Natl Herb. has a private herbarium. Cf. Field Mus. Nat. Hist. Bot. 5:12

— Collecting Plants. It seems extraordinary note of the following collecting in California Dept field books: J. G. Lemmon; C. S. Sargent (cf. Field Mus. nat. Hist. Bot. 5: 33); K. Brandegee; T. Brandegee; E. L. Greene; V. Rattan; J. W. Congdon.

— California Collectors. Cf. Millspaugh in Field Mus. Nat. Hist. 5: 26.

— Copeland, E. B. Gave his private collection of ferns to the U. C., 1927. Here is a "private herbarium" that was made while he was a government official in the Philippines.

-Herbaria, private. — A man at St. Helena wrote me that he wished to make an engagement to see me. When he came and got in to my laboratory he took out a formidable document and launched into a long reading of a description and catalog of contents of the herbarium of Dr. Praeger, Leipzig, twenty thousand species, now for sale for a bagatelle — $1500.00. The collection is rich in plants from all continents, sale sets, saving North America. I told this man, Oscar Praeger, nephew of the Leipzig man that I did not buy collections and that I felt sure the University would not buy at the present time. On account of his persistence I suggested Stanford and California Academy in S.F. But even before I did this he said that I should have $300.00 for selling the set to the Univ. of Calif. I told him that I did not deal in botany for

money and moreover that I knew nothing about this collection or its value. He insisted that the value would be guaranteed. Well said I you guarantee this to Stanford. But he said I am unknown. Your name will sell this collection. If you will say it is all right it will be purchased because you are so well known over the Pacific Coast. I explained that I had never in my life sold botanical specimens. He seemed much astonished at this and fairly gasped: "Well, I should think it time you began". "At any rate I shall not begin on this" I said. The herbarium was later sold to the California Academy.

I think I made no note of this curious circumstance — about Sept. 1920, — but Praeger's letter may be in my file. — Nov. 1922.

– Jones, M.E. is a terror for inaccuracy and indefinite statements. See his Astragalus douglasii var. glaberrimus Jones. "Also San Fernando" without saying whether it is Cal. or Lower Cal. Mrs. Brandegee marks the spm. of Brandegee in Herb. U.C. as part of type and puts it on a leaf. label. It is undoubtedly Lower Cal. but one has to infer it. Cf. Proc. Cal. Acad. ser. 2, 5: 645. The trouble is that Jones throws all sorts of notes into a general hodgepodge of his Contributions and never makes any preliminary explanation re his species. He is reckless in naming herb. spms. The 2-celled A. aquinus Jepson he referred to A. lentiginosus as a var. by so naming a spm. from Borrego Spr. by Brandegee.

– Miss Ferguson one day, speaking of the violent tactics of Mrs. Brandegee, referred to Miss H.A. Walker, the attendant at the Herbarium: "Well Miss Walker is always a lady". That is true. The use of the Herbarium in behalf of the Flora of California has been much furthered by Miss Walker. She is unkempt, terribly slouchy, but she maintains allegiance to the courtesies. Mrs. Brandegee made things as disagreeable as possible at the Herbarium. She and Mr. B. asserted all sorts of authority as if they owned the place. Miss Walker expressed it very neatly: The University got stung when they took in the Brandegees. They caused more trouble than was expected. – Dec. 1921.

– Professor J.H. Patton, of Melburne, says: We grow Monterey Cypress a great deal about Melburne – as a lawn tree for its pyramidal shape and also as a hedge for clipping. We grow Lawson Cypress but it has so many forms that I am not certain what is the real Lawson Cypress. I'd like to see Lawson Cypress in its native habitat. That is the trouble – we often do not know what a form is. We grow Monterey Pine and it does well – we are planting it for use in making cheap packing cases. We planted Pinus austraica and P. halepensis; austraica did not make a straight tree, it leaned over; halepensis made a large but it had no value.

Trees

– Professor Patton, Univ. of Melburne, says. – I am suprised at the wonderful growth of your Blue Gums (Eucalyptus globulus). We have no trees in our state (Victoria) as tall as the ones in the Hilgard grove near Hilgard Hall. These suprised me most wonderfully. There must be something very rich about your winters – an equable something about your whole year that gives such growth. – Sept. 14, 1921.

While Professor Patton was with us, Professor Parnell of Ames came in to call. He is traveling thru California but stopped in Berkeley for only a few hours.

– Life on the Tejon Rancho in Bansall, Stephen, "Life of E. L. Beale", p. 272.

– There came in to see me Professor Patton, University of Melbourne, Australia. He says Baron Ferdinand von Mueller's collection is utterly neglected. It is in an herbarium building about 10 mi. from the university of Melbourne, the fine library still with it. This establishment, for such it once was, does not belong to the university, and does not belong to the botanic garden, just outside of which it stands. The botanic garden does not want it! This seemed incredible to me but apparently the garden has gone in for decoration and to make a great show place, although Patton need not be made to say that. The herbarium and library are under the "chief secretary", a dept of government where everything is dumped that will not fit elsewhere – charities, corrections and so forth. – Sept. 14

– There came in to see John P. Young, now at Burlingame, Cal. He has little botany as a college student but has developed an interest in it in later years. He has rubbed with the people at the English universities. He says Seward is now head of botany at Cambridge and a most likeable man. He gives only one course and has all his time for research. Fawcett gave no courses except possibly one. There are other men to do the work. – Sept. 1.

– Compliment to E. L. Greene? "Bicknell's segregate (of Sisyrinchium) seem less distinct than a lot of Greene's poppies" – S. B. Parish in litt. Jan. 13, 1919.

– Palmer, Edw., collections in Cal. in 1888. cf. Contrib U. S. Nat. Herb. 1:1.

– Brandegee, K. = Curran, K. = Layne K. Layne Ranch is near Pilot Hill, Eldorado Co.

– Pinus muricata Don. Extends for 5 or 6 miles parallel with coast and 2 or 3 miles back from it at Trinidad on Luffenholz Creek. 150,000 ft. B.M. cut by Hammond Lumber Co. in 1915. Yields a higher percent of lumber than any other of the associated species except the Redwood. A tree 166 ft-h. and 45 in. diam. breast high was measured. The trees are said to be taller and larger than at Pt. Reyes. – I had the above facts from Prof. Metcalf, Forest Div. – Nov. 4, 1921.

– Teratology. Grindelia suffrutescens Wats. Fasciated stems. Cf. spm. from Tulare (Stubenrauch), listed as G. Torreyana.

– Directions for Collecting Botanical Spms. See Letter File, Sept. 1921.

Addresses.

– Frank Bosch, ferryman over the Klamath River at Regua, Cal.

– P. Power, San Fernando Mission.